DIARIA BRITANNICA;
OR, THE
BRITISH DIARY:
AN
ALMANACK,
FOR THE
Year of OUR LORD 1793.
BEING THE FIRST AFTER
BISSEXTILE, or LEAP-YEAR.

CONTAINING,
A VARIETY of uſeful and entertaining MATTER in
ARTS and SCIENCES:
Calculated for the Improvement of the CURIOUS.

ALSO AN
EPHEMERIS,
Wherein are contained the Heliocentric and Geocentric Places
of the Planets, accurately calculated.

By J. COTES and G. TAYLOR.

The **Sixth Almanack** publiſhed of this Kind.

That d'vine miſt'ry, and a hiſt'ry, written in ASIA,
Was finiſhed (now to be read) in great BRITANNICA;
Sweet bleſſed Iſle, where truth doth ſmile, and will while time remain
Perſiſt in truth, ye BRITISH YOUTH, true wiſdom to obtain,
For Sinai's Mount, that baneful fount, the ſource of all our woe,
Do rule the earth, and e'ery breath—nay, all things here below.
This mighty mount, reaſon's great fount, of ſcience, art, and ſkill,
All that delight in ſcience bright, may come and drink their fill;
The mount is dry, don't ſatisfy, tho' reaſon drinks ſo ſore,
At SION's mount, that flowing fount, drink once you'll thirſt no more.
The firſt brought death upon the earth, great wars, wrath, jar, and ſtrife,
But SION's MOUNT, that LOVING FOUNT, gives us eternal life.
Attain but this, you cannot miſs, truly yourſelves to know
Your origin, how born in ſin—what fruits in EDEN grow.

BIRMINGHAM,
Printed and ſold by THOMAS PEARSON,
AT THE WHOLESALE ALMANACK, STATIONARY, AND MEDICINE
WAREHOUSE IN THE HIGH-STREET, (*Price One Shilling*).

A TABLE *of the* MOON's ſouthing, *for* Greenwich *for the Year* 1793.

M	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
D	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m	h. m.	h. m.	h. m.	h. m.	h. m.
1	2 46	3 30	2 15	3 37	4 27	6 6	6 28	7 41	8 59	9 24	10 19	10 23
2	3 30	4 16	3 0	4 32	5 25	6 56	7 17	8 31	9 47	10 9	11 3	11 14
3	4 13	5 2	3 49	5 29	6 21	7 46	8 7	9 20	10 32	10 51	11 49	0 a 5
4	4 56	5 51	4 40	6 26	7 15	8 36	8 56	10 9	11 17	11 35	0 a 37	1 0
5	5 41	6 43	5 33	7 23	8 8	9 25	9 45	10 56	0 a 1	0 a 19	1 28	1 58
6	6 27	7 38	6 29	8 19	9 0	10 15	10 35	11 43	0 44	1 4	2 21	2 55
7	7 15	8 36	7 27	9 15	9 51	11 5	11 25	0 a 28	1 28	1 50	3 16	3 52
8	8 7	9 36	8 25	10 9	10 42	11 55	0 a 13	1 13	2 11	2 39	4 12	4 47
9	9 3	10 37	9 23	11 2	11 32	0 a 46	1 0	1 56	2 56	3 3	5 8	5 40
10	10 2	11 39	10 22	11 54	0 a 23	1 35	1 46	2 39	3 43	4 23	6 4	6 31
11	11 3	0 a 37	11 19	0 a 47	1 15	2 23	2 31	3 21	4 32	5 17	6 58	7 21
12	0 a 5	1 33	0 a 15	1 39	2 6	3 10	3 14	4 5	5 24	6 13	7 51	8 11
13	1 6	2 26	1 8	2 30	2 56	3 56	3 57	4 51	6 18	7 10	8 43	9 2
14	2 4	3 18	2 1	3 21	3 45	4 40	4 42	5 39	7 16	8 7	9 35	9 53
15	2 59	4 8	2 52	4 12	4 33	5 23	5 23	6 30	8 15	9 2	10 27	10 45
16	3 52	4 57	3 43	5 1	5 19	6 5	6 8	7 24	9 13	9 57	11 19	11 37
17	4 42	5 46	4 33	5 49	6 4	6 48	6 55	8 21	10 11	10 52	morn	morn
18	5 30	6 35	5 23	6 36	6 48	7 33	7 46	9 21	11 9	11 46	0 12	0 29
19	6 18	7 24	6 12	7 22	7 31	8 20	8 40	10 22	morn	morn	1 6	1 20
20	7 6	8 12	7 0	8 7	8 15	9 10	9 37	11 22	0 5	0 40	1 59	2 10
21	7 53	8 59	7 47	8 51	9 0	10 3	10 37	morn	1 0	1 33	2 51	2 57
22	8 41	9 46	8 34	9 35	9 47	11 0	11 38	0 21	1 54	2 27	3 41	3 43
23	9 29	10 32	9 20	10 20	10 36	11 59	morn	1 18	2 48	3 20	4 30	4 27
24	10 17	11 17	10 5	11 7	11 28	morn	0 39	2 13	3 41	4 12	5 16	5 9
25	11 4	morn	10 49	11 55	morn	1 6	1 38	3 6	4 33	5 3	6 0	5 51
26	11 50	0 1	11 33	morn	0 23	2 0	2 35	3 58	5 25	5 53	6 43	6 33
27	morn	0 45	morn	0 45	1 2	2 58	3 29	4 50	6 15	6 40	7 26	7 16
28	0 35	1 30	0 19	1 38	2 19	3 54	4 21	5 41	7 4	7 25	8 9	8 1
29	1 20		1 6	2 33	3 18	4 47	5 11	6 32	7 52	8 9	8 52	8 48
30	2 3		1 54	3 30	4 16	5 39	6 1	7 22	8 39	8 53	9 37	9 39
31	2 45		2 44		5 12		6 51	8 11		9 36		10 33

A TABLE *of the* Seven Stars ſouthing, *or Times when they paſs the Meridian.*

	A.	A.	A.	A.	A.	M.	M.	M.	M.	M.	M.	A.
1	8 43	6 31	4 43	2 50	0 59	10 56	8 52	6 48	4 52	3 5	1 8	11 0
7	8 17	6 8	4 20	2 28	0 36	10 32	8 28	6 25	4 30	2 43	0 45	10 34
13	7 51	5 44	3 59	2 6	0 12	10 7	8 3	6 2	4 9	2 21	0 20	10 8
19	7 25	5 20	3 37	1 44	11 48	9 42	7 39	5 40	3 48	1 58	11 a 51	9 42
25	7 0	4 58	3 15	1 21	11 21	9 17	7 15	5 18	3 27	1 36	11 26	9 15

Uſe of the Tables. To find the Time of High Water.

Exam. On Jan. 1ſt Moon ſouths at -	2 46 m.
Add for N. and F. Moon for London -	2 30
Time of High Water at London	4 16 m.
Add for next Low Water - -	5 49
Low Water at London, Jan. 1ſt. morn.	10 5 m.
Ex. 1.) On Jan. 1, Seven Stars ſouths at	8 43 p.m
Semidiurnal arc. ſubtract and add -	8 17
Seven Stars riſes Jan. 1ſt at - - -	0 26 p.m
Seven Stars ſets next morning Jan. 2, -	5 0 m.
Ex. 2.) Seven Stars ſouths Jan. 1ſt -	8 43 a.
Sirius ſouths after the Seven Stars -	3 1
Sirius ſouth Jan. 1ſt afternoon -	11 44 a.
Semidiurnal arc ſubtract and add -	4 37
Sirius riſes Jan. 1ſt afternoon - -	7 7 a.
Sirius ſets Jan. 2d morning - -	4 21 m.

Na. of Stars.	ſ. a 7*	ſ. d. a.
Aldebaran	0 40	7 29
Capella	1 26	——
Betelgeuſe	2 8	6 41
Sirius	3 1	4 37
Alphord	5 42	5 24
Regulus	6 21	7 11
Upp. point.	7 15	——
Virg. ſpike	9 39	5 12
Arcturus	10 20	7 55
Antarus	12 41	3 34
Algethi	13 30	7 21
Lyra	14 52	——
Atair	16 4	6 46
Fomalhaut	19 8	2 52
Pole ſtar	21 13	——
Almach	22 16	——
Algol	23 19	——
Algenib	23 34	——

Ge⊙centric Latitude.						
D	♅ n	♄ ſ.	♃ n	♂ ſ.	♀ ſ.	☿ n
1	0 45	2 33	0 56	1 9	1 48	2 40
13	0 45	2 29	0 57	1 5	1 30	2 49
25	0 45	2 26	0 58	1 0	0 59	0 51

Laſt Quart. 5 day, 1 after.
New Moon 12 day, 9 mor.
Firſt Quart 19 day, 2 mor.
Full Moon 27 day, 4 mor.

JANUARY hath XXXI Days.

Heliocentric Longitude.							
D	♅ ♌	♄ ♉	♃ ♏	♂ ♓	♀ ♈	☿ ♋	☊ ♍
1	21 12	1 18	16 33	3 51	10 55	11 30	18 34
7	21 16	1 30	17 0	7 39	20 30	15♌59	18 15
13	21 21	1 43	17 28	11 28	0♉5	14♍57	17 56
19	21 25	1 56	17 56	15 16	9 41	8♎54	17 37
25	21 30	2 9	18 24	19 3	19 18	29 15	17 18

M D	W D	Feſtival Days.	Aſpects & Wea.	☉ ♑	♅ ♌	♄ ♈	♃ ♏	♂ ♒	♀ ♒	☿ ♑	☽ ♌	☽ lat ſou.	☽ dec north	☽ riſes.
1	T	Circumſion	☌ ☉ ☿	11	23	25	24	12	17	11	26 43	1 46	10 58	8 34
2	W	♂ ſet 6.40n.	Windy	12	23	25	24	13	19	10	8♍35	0 45	7 40	9 36
3	T	♀ ſet 8.12n.	with ſnow.	13	23	25	24	14	20	9	20 35	0n19	4 2	10 39
4	F	Sir Iſaac N.		14	23	25	24	14	21	7	2♎47	1 23	0 10	11 44
5	S	Old Chr. d.	☍ ♅ ♀	15	23	25	24	15	22	6	15 16	2 25	3ſ47	Morn
6	F	2 S.aft.Chr.	□ ♃ ♀	16	23	25	24	16	23	5	28 7	3 22	7 40	0 48
7	M	♄ ſet 1. 4m.	Epiph.	17	23	25	25	17	25	4	11♏26	4 9	11 19	1 57
8	T	Lucian	(✶ ♄ ♀	18	23	25	25	17	26	4	25 14	4 44	14 30	3 11
9	W	♃ ri.3.36m	Cold	19	23	25	25	18	27	3	9♐32	5 3	16 55	4 23
10	T	♀ ſet 7.31n	rain.	20	22	25	25	19	28	3	24 17	5 3	18 18	5 31
11	F	Cl.faſt 8′41″	☌ ☽ ☿ variable	21	22	25	25	20	29	2	8♑23	4 42	18 26	6 35
12	S	OldN.yrs.d	turbu-	22	22	25	26	21	♓	D	24 40	4 0	17 16	☽ ſets
13	F	Sun.aft.Ep.	lent ✶ ♀ ☿	23	22	25	26	21	2	2	9♒58	3 2	14 51	5a57
14	M	Hil.C.T.b	☍ ♅ ♂	24	22	25	26	22	3	3	25 4	1 51	11 26	7 14
15	T	[Ox. T. b.	□ ☉ ♄	25	22	25	26	23	4	3	9♓51	0 34	7 22	8 35
16	W	♀ ſet 7. 48n	✶ ☉ ♃	26	22	25	26	24	5	3	24 14	0ſ44	2 58	9 50
17	T	OldTwel.d.	✶ ♄ ♀	27	22	25	26	25	7	4	8♈9	1 56	1n28	11 4
18	F	Q. birth d.	Priſca.	28	22	25	27	25	8	5	21 39	3 0	5 40	Morn
19	S	♄ ſet 0.24m	(☌ ☽ ♄	♒	22	25	27	26	9	5	4♉45	3 52	9 28	0 14
20	F	2S.aft.Eph.	□ ♃ ♀	1	22	25	27	27	10	6	17 31	4 32	12 44	1 21
21	M	Agnes 1ret.	weather	2	22	25	27	28	11	7	0♊0	4 57	15 20	2 26
22	T	Vincent	for the moſt	3	22	25	27	29	13	8	12 15	5 8	17 12	3 26
23	W	Hil. T. beg.	part.	4	22	26	27	29	14	9	24 22	5 6	18 15	4 23
24	T	♀ ſet 8.11n.		5	22	26	28	♓	15	10	6♋21	4 49	18 29	5 14
25	F	Co. St. Paul	Rain about	6	22	26	28	1	16	11	18 15	4 21	17 55	6 0
26	S	♃ ri.3. 56m		7	22	26	28	2	17	12	0♌6	3 41	16 33	6 39
27	F	Septuageſ.	Pr. A.	8	22	26	28	2	19	13	11 56	2 52	14 29	☽ riſ.
28	M	2 ret.	[Fr.b.	9	22	26	28	3	20	14	23 46	1 55	11 48	6a18
29	T	☿ ſet 8.24m	☌ ☽ ♅	10	22	26	28	4	21	15	5♍39	0 52	8 38	7 19
30	W	K.Ch.I.M.	theſe	11	22	26	28	5	22	17	17 37	0n3	5 6	8 21
31	T	Pheaſ. ſh. e.	days.	12	22	26	28	6	23	18	29 42	1 18	1 10	9 25

D	D. L beg.	Sun riſe	Sun ſet.	D. L. ends	leng. of D.	Day inc.	Declination.						
							☉ ſ.	♅ n	♄ n	♃ ſ.	♂ ſ.	♀ ſ	☿ ſ
1	5 56	8 2	3 58	6 4	7 56	0 6	22 57	14 29	7 27	17 57	18 11	17 14	20 18
7	5 51	7 57	4 3	6 9	8 6	0 16	22 17	14 33	7 30	18 12	16 46	14 45	20 3
13	5 46	7 51	4 9	6 14	8 18	0 28	21 21	14 37	7 35	18 26	15 14	12 3	20 37
19	5 40	7 43	4 16	6 20	8 32	0 42	20 10	14 41	7 42	18 38	13 37	9 10	21 20
25	5 34	7 35	4 25	6 26	8 50	1 0	18 46	14 46	7 50	18 49	11 56	6 9	22 8

Geocentric Latitude.

D	♅ n.	♄ ſ.	♃ n	♂ ſ.	♀ ſ.	☿ ſ.
1	0 45	2 24	0 59	0 56	0 35	0 13
13	0 46	2 21	1 0	0 50	n 14	1 34
25	0 46	2 19	1 1	0 43	1 10	2 8

Laſt Quart. 4 day, 4 morn
New Moon 10 day, 7 night
Firſt Quart. 17 day, 6 night
Full Moon 25 day, 11 night

FEBRUARY hath XXVIII Days.

Heliocentric Longitude.

D	♅ ♌	♄ ♉	♃ ♏	♂ ♓	♀ ♊	☿ ♏	☊ ♍
1	21 35	2 24	18 56	23 27	0 32	20 45	16 55
7	21 40	2 37	19 24	27 13	10 12	7 ♐ 1	16 36
13	21 45	2 50	19 52	0 ♈ 56	19 52	23 31	16 17
19	21 49	3 2	20 20	4 40	29 34	10 ♑ 30	15 58
25	21 54	3 15	20 48	8 22	9 ♋ 16	28 45	15 39

M D	W D	Feſtival Days.	Aſpects & Wea.	☉ ♒	♅ ♌	♄ ♈	♃ ♏	♂ ♓	♀ ♓	☿ ♑	☽ ♎	☽ lat nor.	☽ de. ſouth	☽ riſes.
1	F	♄ ſ. 11.24n	Mild or	13	22	26	29	6	24	19	11 59	2 21	2 34	10 32
2	S	Puri. or C.d	the ſea-	14	22	26	29	7	26	21	24 30	3 19	6 25	11 38
3	F	Sexageſ. S.	3 retu.	15	22	26	29	8	27	22	7 ♏ 19	4 8	10 4	Morn
4	M	♀ ſ. 8. 41 n	☌ ☽ ♃	16	21	26	29	9	28	23	20 32	4 45	13 10	0 46
5	T	Agatha	△ ♃ ♀	17	21	26	29	10	29	25	4 ♐ 9	5 8	15 57	1 54
6	W	♃ ri. 2.2 m	□ ♄ ☿	18	21	26	20	10	♈	26	18 14	5 14	17 44	3 0
7	T	Collop Th.	ſon.	19	21	26	29	11	1	27	2 ♑ 44	5 0	18 26	4 6
8	F	Cl. f. 14′38″	* ♃ ☿	20	21	27	29	12	3	29	17 36	4 26	17 55	5 7
9	S	♄ ſ. 10.57 n	☍ ☉ ♅	21	21	27	29	13	4	♒	2 ♒ 43	3 32	16 8	5 59
10	F	Quinquag.	D.ſ.O.	22	21	27	♐	13	5	2	17 56	2 24	13 11	☽ ſets
11	M	4 return	☌ ☽ ♂	23	21	27	0	14	6	3	3 ♓ 5	1 6	9 22	6a 0
12	T	Hil.T.ends	Shr.T.	24	21	27	0	15	7	5	18 0	0ſ 16	5 0	7 19
13	W	Aſh Wedn.	☌ ☽ ♀	25	21	27	0	16	8	6	2 ♈ 34	1 35	0 26	8 36
14	T	Valentine	☌ ☽ ♄	26	21	27	0	17	10	8	16 43	2 46	4n 1	9 53
15	F	C. T. d. m.	* ☉ ♄	27	21	27	0	17	11	9	0 ♉ 24	3 45	8 6	11 4
16	S	♀ ſ. 9. 14 n	Wind,	28	21	27	0	18	12	11	13 39	4 30	11 39	Morn
17	F	1 S. in Lent	with	29	21	27	0	19	13	12	26 29	5 0	14 31	0 10
18	M	Cl.faſt 14.15	ſnow or	♓	21	27	0	20	14	14	9 ♊ 0	5 15	16 38	1 14
19	T	♃ ri. 1.17m	* ♀ ☿	1	21	27	0	20	15	16	21 14	5 15	17 56	2 14
20	W	Emb. week	(□☉♃	2	21	28	0	21	16	17	3 ♋ 16	5 1	18 25	3 8
21	T	♄ ſ. 10. 15 n	cold	3	21	28	1	22	17	19	15 10	4 34	18 3	3 56
22	F	♀ ſ. 9. 31 n	rain.	4	21	28	1	23	19	20	27 0	3 56	16 56	4 37
23	S	Pr. Oct. b.	Briſk	5	21	28	1	24	20	22	8 ♌ 49	3 7	15 4	5 14
24	F	2 S. in Lent	☍ ♅ ☿	6	21	28	1	24	21	24	20 39	2 17	12 33	5 46
25	M	Pr.Ad.F.b.	△ ♅ ♀	7	21	28	1	25	22	25	2 ♍ 34	1 8	9 30	☽ riſe
26	T	♃ ri. 0.54m	St Mat	8	21	28	1	26	23	27	14 35	0 2	6 3	6a 16
27	W	Cl.faſt 12.56	winds,	9	20	28	1	27	24	29	26 44	1n 5	2 18	7 20
28	T	Hare-h. en.	* ♄ ☿ with ſnow or rain.	10	22	28	1	27	25	♓	9 ♎ 2	2 10	1ſ 36	8 24

VENUS will be an evening ſtar till May 27, then a morning ſtar to the year's end.
JUPITER is a morning ſtar till May 17, then an evening ſtar till December 4, then a morning ſtar again to the end of the year.

D	D.L beg.	Sun riſe	Sun ſet.	D. L. ends	leng. of D.	Day inc.	Declination. ☉ ſ.	♅ n	♄ n	♃ ſ.	♂ ſ.	♀ ſ.	☿ ſ.
1	5 26	7 24	4 36	6 34	9 12	1 22	16 52	14 53	8 0	19 1	9 52	2 32	22 14
7	5 17	7 13	4 47	6 43	9 34	1 44	15 3	14 58	8 10	19 9	8 3	0n 36	21 34
13	5 7	7 2	4 58	6 53	9 56	2 6	13 5	15 2	8 22	19 17	6 11	3 44	20 8
19	4 56	6 51	5 9	7 4	10 18	2 28	10 59	15 7	8 34	19 22	4 18	6 49	17 55
25	4 45	6 39	5 21	7 15	10 42	2 52	8 48	15 12	8 47	19 26	2 24	9 48	14 54

MARCH hath XXXI Days.

Geocentric Latitude.

D	♅ n	♄ ſ.	♃ n	♂ ſ.	♀ n	☿ ſ.
1	0 45	2 18	1 2	0 41	1 30	2 7
13	0 45	2 16	1 3	0 33	2 31	1 17
25	0 45	2 14	1 4	0 20	3 31	n 46

Laſt Quart. 5 day, 3 aftern.
New Moon 12 day, 6 mor.
Firſt Quar. 19 day, at noon.
Full Moon 27 day, 4 aftern.

Heliocentric Longitude.

D	♅ ♌	♄ ♉	♃ ♏	♂ ♈	♀ ♋	☿ ♒	☊ ♍
1	21 58	3 24	21 6	10 49	15 45	12 5	15 26
7	22 3	3 37	21 34	14 28	25 29	4♓42	15 7
13	22 7	3 50	22 2	18 5	5♌14	1♈35	14 48
19	22 12	4 2	22 30	21 41	14 59	3♉43	14 29
25	22 17	4 15	22 58	25 15	24 45	10♊45	14 10

M D	W D	Feſtival Days.	Aſpects & Wea.	☉ ♓	♅ ♌	♄ ♈	♃ ♐	♂ ♓	♀ ♈	☿ ♓	☽ ♎	☽ lat nor.	☽ de. ſouth	☽ riſes.
1	F	St. David	Cold	11	20	28	1	28	26	2	21 31	3 10	5 28	9 31
2	S	Chad	rain or	12	20	28	1	29	27	4	4♏14	4 1	9 10	10 40
3	F	3 S. in Lent	☌ ♄ ♀	13	20	29	1	♈	28	6	17 12	4 41	12 29	11 46
4	M	♅ ſo. 10.33n	△ ♃ ♂	14	20	29	1	1	29	8	0♐28	5 8	15 15	Morn
5	T	♄ ſet 9.36 n	ſleet.	15	20	29	1	1	♉	10	14 12	5 18	17 15	0 54
6	W	♀ ſet 10.6 n	Wind	16	20	29	1	2	2	12	27 55	5 10	18 17	1 59
7	T	Perpetua	and rain	17	20	29	1	3	3	13	12♑ 8	4 43	18 13	2 59
8	F	Cl.fa, 10′54″	about	18	20	29	1	4	4	15	26 38	3 58	16 58	3 52
9	S	♃ ri. 0.15m	the new	19	20	29	1	4	5	17	11♒22	2 56	14 34	4 37
10	F	4 S. in Lent	moon.	20	20	29	1	5	6	19	26 14	1 43	11 11	5 19
11	M	♄ ſet 9.18 n	☌ ☉ ☿	21	20	29	1	6	7	21	11♓ 7	0 22	7 5	5 55
12	T	Gregory	☌ ☽ ♂	22	20	♉	1	7	8	23	25 52	1 ſ 0	2 34	☽ ſets
13	W	♀ ſet 10.25n		23	20	0	1	7	9	25	10♈24	2 16	2n 2	7a27
14	T	Cam.lat.act	☌ ☽ ♄	24	20	0	1	8	10	27	24 35	3 23	6 24	8 43
15	F	Cl.faſt 8. 59		25	20	0	1	9	11	29	8♉22	4 15	10 17	9 57
16	S	♃ ri. 11.50n		26	20	0	1	10	12	♈	21 44	4 52	13 31	11 6
17	F	5 S. in Lent	Varia-	27	20	0	℞	11	13	3	4♊41	5 12	15 59	Morn
18	M	Ed. K.W.S.	ble, with	28	20	0	1	11	14	5	17 17	5 17	17 36	0 9
19	T	♅ ſou.9.32n	ſhowers	29	20	0	1	12	15	7	29 33	5 7	18 21	1 5
20	W		& briſk	♈	20	0	1	13	16	9	11♋36	4 43	18 15	1 56
21	T	Benedict	gales	1	20	1	1	14	17	11	23 30	4 8	17 21	2 40
22	F	Cam.T.end		2	20	1	1	14	18	13	5♌19	3 22	15 41	3 19
23	S	Ox. T.ends	☌ ☽ ♅	3	20	1	1	15	19	15	17 8	2 28	13 22	3 54
24	F	6 S. in Lent	□ ♅ ♀	4	20	1	1	16	20	17	29 1	1 27	10 28	4 24
25	M	Ann. V. M.	△ ♅ ☿	5	20	1	1	17	21	19	11♍ 1	0 22	7 6	4 50
26	T	Lady day	of wind	6	20	1	1	17	22	21	23 12	n 45	3 24	5 17
27	W	♃ ri. 11.10n	to the	7	19	1	1	18	22	22	5♎34	1 51	0ſ31	☽ riſ.
28	T	Maundy	△ ♅ ♂	8	19	1	1	19	23	24	18 10	2 53	4 28	7a28
29	F	Good Frid.	end.	9	19	1	1	20	24	26	1♏ 0	3 47	8 17	8 38
30	S	Cl.faſt 4.23		10	19	2	1	20	25	27	14 3	4 30	11 47	9 46
31	F	Eaſter day	☌ ☽ ♃	11	19	2	1	21	26	20	27 20	4 59	14 43	10 51

D	D. L. beg.	Sun riſe	Sun ſet.	D. L. ends	leng. of D.	Day inc.
1	4 36	6 31	5 29	7 24	10 58	3 8
7	4 24	6 20	5 40	7 36	11 20	3 30
13	4 12	6 8	5 52	7 48	11 44	3 54
19	4 0	5 56	6 4	8 0	12 8	4 18
25	3 48	5 44	6 16	8 12	12 32	4 42

Declination.

☉ ſ.	♅ n	♄ n	♃ ſ.	♂ ſ.	♀ n	♀ ſ.
7 17	15 16	8 56	19 29	1 3	11 43	12 25
4 58	15 20	9 10	19 31	0n46	14 23	8 3
2 37	15 24	9 25	19 32	2 39	17 1	2 57
0 15	15 28	9 40	19 32	4 30	19 21	2n39
2n7	15 31	9 55	19 30	6 10	21 26	8 14

APRIL hath XXX Days:

Geocentric Latitude

D	♅ n	♄ l.	♃ n	♂ n	♀ l	☿ l.
1	0 45	2 13	1 5	0 21	4 2	2 6
13	0 44	2 12	1 6	0 13	4 44	3 1
25	0 44	2 12	1 6	0 6	5 1	0 59

Laſt Quart. 3 day, 11 night
New Moon 10 day, 5 aft.
Firſt Quart. 18 day, 6 mor.
Full Moon 26 day, 5 mor.

Heliocentric Longitude.

D	♅ ♌	♄ ♉	♃ ♏	♂ ♈	♀ ♍	☿ ♋	☊ ♍
1	22 22	4 30	23 34	29 24	5 8	23 43	13 48
7	22 27	4 43	23 59	2♉54	15 52	28♌24	13 29
13	22 31	4 56	24 27	6 22	25 36	23♍31	13 10
19	22 35	5 9	24 55	9 48	5♎19	16♎5	12 51
25	22 40	5 12	25 23	13 11	15 0	5 ♏34	12 32

M D	W D	Feſtival Days.	Aſpects & Wea.	☉ ♈	♅ ♌	♄ ♉	♃ ♐	♂ ♈	♀ ♉	☿ ♉	☽ ♐	☽ la. nor.	☽ dec ſouth	☽ riſes
1	M	EaſterMon.	Foolsd	12	19	2	1	22	27	0	10 51	5 13	16 56	Morn
2	T	EaſterTueſ	Wind	13	19	2	1	23	28	1	24 33	5 9	18 12	0 0
3	W	EaſterWed.	☌ ♄ ☿	14	19	2	1	23	29	3	8♑27	4 47	18 25	1 1
4	T	St.Ambroſe	and rain	15	19	2	1	24	29	4	22 32	4 8	17 30	1 55
5	F	Old Lady d.	at the	16	19	2	1	25	♊	5	6♒45	3 13	15 29	2 43
6	S	♀ ſet 11.19n	☍ ♃ ♀	17	19	2	1	26	1	6	21 6	2 6	12 30	3 24
7	F	1 S.aft.Eaſt.	Low S.	18	19	3	1	26	2	7	5♓31	0 50	8 43	4 0
8	M	Cl.faſt 1′.42′	begin-	19	19	3	1	27	2	7	19 58	ſ. 29	4 25	4 33
9	T	♃ ri.10.19n	ning.	20	19	3	1	28	3	8	4♈20	1 45	0 n 7	5 4
10	W	O.&C.T.b.	Turbu- ☌ ☽ ♂	21	19	3	1	29	4	9	18 33	2 54	4 35	☽ ſets
11	T	♄ ſets 7.47n	☌ ☽	22	19	3	1	29	5	9	2♉32	3 51	8 44	7a43
12	F	☿ ſet 8.38n	♄ ☿	23	19	3	0	♉	5	9	16 13	4 34	12 20	8 55
13	S	♀ ſet 11.25n	lent	23	19	3	0	1	6	9	29 33	5 0	15 11	10 1
14	F	2S.aft.Eaſt.	☌ ☽ ♀	24	19	4	0	2	7	10	12♊31	5 10	17 12	11 1
15	M	1 return	ſhowers of rain	25	19	4	0	2	7	10	25 8	5 5	18 18	11 57
16	T	♃ ſo.2.13m	and	26	19	4	0	3	8	9	7♋27	4 45	18 31	Morn
17	W	EaſterTe.b.	☌ ♄ ♂	27	19	4	0	4	9	9	19 32	4 13	17 52	0 45
18	T	Cl.ſlo.0′52″	thunder for the	28	19	4	0	5	9	9	1♌26	3 30	16 26	1 26
19	F	Alphege	moſt	29	19	4	0	5	10	9	13 16	2 39	14 18	2 1
20	S	Cl.ſlo. 1′18″	part	♉	19	4	0	6	10	8	25 6	1 41	11 35	23 3
21	F	3S.aft.Eaſt.	☌ ♂ ☿	1	19	4	0	7	11	8	7 ♍ 1	0 33	8 21	3 2
22	M	2 return	of the month ;	2	19	5	0	7	11	7	19 6	n 27	4 44	3 27
23	T	St. George		3	19	5	♏	8	12	7	1♎24	1 32	0 51	3 52
24	W	♀ ſet 11.19n		4	19	5	29	9	12	6	14 0	2 34	3 ſ 9	4 17
25	T	St. Mark	PrsMb	5	19	5	29	10	13	5	26 53	3 29	7 7	4 43
26	F	♃ ſo.1.31m	☌ ☉	6	19	5	20	10	13	5	10♏ 4	4 15	10 49	☽ riſ.
27	S	St. Walburg	♄ ☿	7	19	5	20	11	13	4	23 33	4 47	14 2	8a51
28	F	4S.aft.Eaſt.	☌ ☽ ♃	8	19	5	20	12	14	3	7♐16	5 4	16 33	9 59
29	M	3 return	then	9	19	5	20	13	14	3	21 10	5 3	18 8	11 2
30	T	Cl. ſlo. 3′4″	more mild.	10	19	6	29	13	14	2	5♑22	4 44	18 38	11 59

							Declination.						
D	D. L. beg.	Sun riſe	Sun ſet.	D. L. ends	Leng. of D.	Day inc.	☉ n	♅ n	♄ n	♃ ſ.	♂ n	♀ n	☿ n
1	3 30	5 30	6 30	8 30	13 0	5 10	4 50	15 34	10 13	19 27	8 23	23 31	13 39
7	3 15	5 19	6 41	8 45	13 22	5 32	7 7	15 36	10 29	19 23	10 5	24 57	16 35
13	2 58	5 7	6 53	9 2	13 46	5 56	9 19	15 37	10 45	19 17	11 44	26 5	17 41
19	2 40	4 55	7 5	9 20	14 10	6 20	11 26	15 38	11 0	19 10	13 18	26 54	16 48
25	2 21	4 44	7 16	9 30	14 32	6 42	13 26	15 39	11 16	19 3	14 47	27 22	14 23

MAY hath XXXI Days.

Geocentric Latitude.

D	♅ n	♄ ſ.	♃ n	♂ n	♀ n	☿ ſ.
1	0 44	2 12	1 6	0 2	4 55	0 43
13	0 43	2 12	1 5	0 n6	3 50	3 7
25	0 43	2 12	1 4	0 13	1 44	3 23

Laſt Quart. 3 day, 4 morn.
New Moon 10 day, 4 mor.
Firſt Quart. 18 day, 1 mor.
Full Moon 25 day, 4 aft.

Heliocentric Longitude.

D	♅ ♌	♄ ♉	♃ ♏	♂ ♉	♀ ♎	☿ ♏	☊ ♍
1	22 45	5 35	25 50	16 33	24 40	23 9	12 13
7	22 50	5 48	26 18	19 54	4♏19	9 ♐49	11 54
13	22 54	6 1	26 46	23 11	13 55	26 21	11 35
19	22 59	6 14	27 14	26 26	23 30	13♑29	11 16
25	23 4	6 26	27 42	29 40	3 ♐ 4	2 ♒ 3	10 56

M D	W D	Feſtival Days.	Aſpects & Wea.	☉ ♉	♅ ♌	♄ ♉	♃ ♏	♂ ♉	♀ ♊	☿ ♉	☽ ♑	☽ lat nor.	☽ dec ſouth	☽ riſes.
1	W	St.Ph.&Jas.	Seaſon-	11	19	6	29	14	14	2	19 18	4 7	18 0	Morn
2	T	♃ſou.1:6m	able at	12	19	6	28	15	14	1	3♒27	3 16	16 14	0 49
3	F	In.of the C.	the be-	13	19	6	28	15	15	1	17 35	2 12	13 29	1 33
4	S	♀ſet10.55n	ginning then	14	19	6	28	16	15	0	1♓43	1 1	9 56	2 10
5	F	5S.aft.Eaſt.		15	19	6	28	17	℞	0	15 48	0ſ14	5 50	2 40
6	M	4ret.StJohn	A.P.L	16	19	6	28	18	15	0	29 49	1 28	1 25	3 10
7	T	♃ſo.0.44m	ſhowers	17	19	6	28	18	15	0	13♈45	2 36	3n 2	3 38
8	W	Cl.ſlo.3′49″	□ ♅ ♂	18	19	7	28	19	15	D	27 33	3 34	7 17	4 7
9	T	A.d.HolyT	□ ☉ ♅	19	19	7	28	20	15	0	11♉10	4 18	11 6	4 37
10	F	5 return	☌ ☉ ♂	20	19	7	28	20	14	0	24 34	4 48	14 16	☽ ſets
11	S	♀ſet10.19n	☌ ☽ ♀	21	19	7	27	21	14	0	7♊41	5 1	16 39	8a33
12	F	1 S.aft.Aſc.	and	22	19	7	27	22	14	0	20 31	4 59	18 9	9 51
13	M	EaſterT.en.	thunder	23	19	7	27	23	14	1	3♋3	4 43	18 43	10 42
14	T	♃ſo.0.13m		24	19	7	27	23	14	1	15 20	4 13	18 23	11 26
15	W	Cl.ſlo.3′58″		25	19	7	27	24	13	1	27 23	3 33	17 13	Morn
16	T	Oxf.T.ends	Wind	25	19	8	27	25	13	2	9♌17	2 44	15 19	0 4
17	F	♀ſets9.39n	☍ ☉ ♃	26	19	8	27	26	12	2	21 7	1 48	12 46	0 37
18	S	[Dunſtan	and	27	19	8	27	26	12	3	2♍56	0 47	9 42	1 7
19	F	Whit Sun.	QCh.b	28	19	8	26	27	11	4	14 52	0n16	6 13	1 33
20	M	Whit Mon.	ſhowers	29	19	8	26	28	11	5	26 59	1 20	2 25	1 57
21	T	Whit Tueſ.		♊	19	8	26	28	10	5	9♎22	2 21	1ſ34	2 20
22	W	Prs. Eliz. b.	CTdm	1	19	8	26	29	10	6	22 5	3 16	5 34	2 45
23	T	[Em.We.	to the	2	19	8	26	♊	9	7	5♏11	4 3	9 26	3 12
24	F	Cl.ſlo.3′31.	☌ ♄ ☿	3	19	9	26	0	9	8	18 40	4 38	12 56	3 41
25	S	♀ſet 8.34n	end.	4	20	9	26	1	8	9	2♐30	4 57	15 49	☽ riſ.
26	F	Trinity Su.	1 ret.	5	20	9	25	2	7	11	16 39	4 59	17 50	8a51
27	M	[Au.I.ABp	CVBe.	6	20	9	25	3	7	12	1♑0	4 43	18 45	9 52
28	T	♃ſo.11.15n	(☌☉♀	7	20	9	25	3	6	13	15 27	4 8	18 28	10 47
29	W			8	20	9	25	4	6	14	29 55	3 17	16 59	11 33
30	T	Cl.ſlo.2.50	☌ ♂ ♀	9	20	9	25	5	5	16	14♒18	2 14	14 25	Morn
31	F	Trin.T.beg		10	20	9	25	5	4	17	28 34	1 3	11 1	0 12

D	D. L. beg.	Sun riſe	Sun ſet.	D. L. ends	leng. of D.	Day inc.
1	2 1	4 34	7 26	9 59	14 52	7 2
7	1 41	4 24	7 36	10 10	15 12	7 22
13	1 12	4 14	7 46	10 48	15 32	7 42
19	0 38	4 5	7 55	11 22	15 50	8 0
25	all	3 58	8 2	Day	16 4	8 14

Declination.

☉ n	♅ n	♄ n	♃ ſ.	♂ n	♀ n	☿ n
15 18	15 38	11 31	18 54	16 10	27 29	11 32
17 1	15 37	11 46	18 45	17 29	27 12	9 30
18 34	15 35	12 1	18 35	18 41	26 27	8 55
19 56	15 33	12 14	18 25	19 46	25 13	9 41
21 5	15 30	12 28	13 15	20 44	23 28	11 37

JUNE hath XXX Days.

Geocentric Latitude.

D	♅ n	♄ ſ.	♃ n	♂ n	♀ ſ.	☿ ſ.
1	0 43	2 13	1 3	0 18	0 6	2 44
13	0 42	2 14	1 1	0 25	2ſ22	0 45
25	0 42	2 10	0 59	0 32	3 47	1n15

Laſt Quarter 1 day, 10 morn.
New Moon 8 day, 3 afternoon
Firſt Quarter 16 day, 6 aftern.
Full Moon 23 day, midnight
Laſt Quarter 30 day, 3 aftern.

Heliocentric Longitude.

D	♅ ♌	♄ ♉	♃ ♏	♂ ♊	♀ ♐	☿ ♒	☊ ♍
1	23 9	6 41	28 15	3 24	14 11	26 50	10 34
7	23 13	6 54	28 43	6 33	23 42	22♓11	10 15
13	23 18	7 7	29 11	9 41	3♑12	22♈34	9 56
19	23 23	7 20	29 39	12 41	12 41	27♉59	9 37
25	23 27	7 33	0♐ 8	15 49	22 10	5♋42	9 18

M D	W D	Feſtival Days.	Aſpects & Wea.	☉ ♊	♅ ♌	♄ ♉	♃ ♏	♂ ♊	♀ ♊	☿ ♉	☽ ♓	☽ lat ſou.	☽ de. ſouth.	☽ riſes.
1	S	Nicomede	Cold	11	20	9	25	6	4	18	12 40	0 11	7 0	0 46
2	**F**	**1 S. aft. Tri.**	□ ♅ ☿	12	20	10	25	7	3	20	26 35	1 24	2 39	1 13
3	M	2 ret.	rain,	13	20	10	25	7	3	21	10♈21	2 31	1n47	1 45
4	T	**K.G.III. b.**	☍ ♃ ☿	14	20	10	24	8	2	23	23 56	3 28	6 4	2 0
5	W	**P.Ern.A. b.**	hail, & thun	15	20	10	24	9	2	24	7♉21	4 13	9 59	2 36
6	T	Cl.ſlo. 1′43″	der,	16	20	10	24	10	1	26	20 34	4 44	13 21	3 7
7	F	♃ ſ. 10.24 n	with	17	20	10	24	10	1	28	3♊36	4 59	16 0	3 40
8	S	☿ riſ. 3. 2 m	☌ ♀ ☿	18	20	10	24	11	0	29	16 25	4 59	17 49	☽ ſets
9	**F**	**2 S. aft. Tri.**	briſk	18	20	10	24	12	0	♊	29 0	4 44	18 44	8a33
10	M		⚹ ☉ ♅	19	20	11	24	12	0	3	11♋22	4 15	18 44	9 20
11	T	St. Bar. [3 r.	winds.	20	20	11	24	13	♉	5	23 32	3 36	17 52	9 51
12	W	Cl.ſlo. 0′32″		21	20	11	24	14	29	7	5♌31	2 47	16 12	10 37
13	T	♃ ſo. 9.57n		22	20	11	23	14	29	9	17 22	1 52	13 52	11 6
14	F	♄ ri. 1.48 m		23	20	11	23	15	29	11	29 10	0 52	10 58	11 33
15	S	Cl. faſt c. 5		24	20	11	23	16	28	13	10♍58	0n11	7 38	11 58
16	**F**	**3 S. aft. Tr.**	Windy,	25	20	11	23	16	28	15	22 55	1 14	3 57	Morn
17	M	‡ return	☌ ♂ ☿	26	20	11	23	17	D	17	5♎ 0	2 14	0 4	0 20
18	T	[St Alban	⚹ ♅ ☿	27	20	11	23	18	28	19	17 23	3 10	3ſ54	0 43
19	W	**Tr.T. ends**	with	28	20	11	23	19	28	21	0♏ 8	3 58	7 49	1 8
20	T	**Tranſ. Ed.**	**K W S**	29	20	12	23	19	28	23	13 19	4 34	11 29	1 35
21	F	Longeſt day	⚹ ♅ ♂	♋	20	12	23	20	28	25	26 56	4 57	14 40	2 7
22	S		rain.	1	20	12	23	21	29	28	10♐59	5 3	17 7	2 46
23	**F**	**4 S. aft. Tr.**	Rain	2	21	12	23	21	29	♋	25 25	4 50	18 33	☽ riſ.
24	M	**St. John b.**	**Mid. d**	3	21	12	23	22	29	2	10♑ 7	4 18	18 47	8a32
25	T	St. J. Col. E.	☌ ☉ ☿	4	21	12	22	23	29	4	24 58	3 28	17 45	9 24
26	W	♃ ſo. 8. 58	and	5	21	12	22	23	29	6	9♒49	2 24	15 30	10 8
27	T	Cl. faſt 2. 38	thunder	6	21	12	22	24	♊	8	24 33	1 10	12 15	10 41
28	F	♄ ri. 0.49 m		7	21	12	22	25	0	11	9♓ 4	0ſ. 7	8 17	11 13
29	S	**St. Pe. & P.**		8	21	12	22	25	0	13	23 20	1 22	3 55	11 43
30	**F**	**5 S. aft. Tr.** [Dog d. b.	Buck [thu.b.	9	21	13	22	26	1	15	7♈17	2 31	0n35	Morn

D	D. L. beg.	Sun riſe	Sun ſet.	D. L. ends	leng. of D.	Day inc.	Declination. ☉ n	♅ n	♄ n	♃ ſ	♂ n	♀ n	☿ n
1		3 50	8 10		16 20	8 30	22 10	15 27	12 43	18 5	21 43	21 6	14 48
7		3 45	8 15		16 30	8 40	22 50	15 24	12 55	17 56	22 25	19 11	18 0
13	all	3 44	8 16	Day	16 32	8 42	23 16	15 20	13 7	17 48	23 1	17 42	21 7
19		3 43	8 17		16 34	8 44	23 27	15 15	13 18	17 41	23 28	16 45	23 33
25		3 43	8 17		16 34	8 44	23 24	15 9	13 28	17 35	23 49	16 24	24 33

Geocentric Latitude.

D	♅ n	♄ l.	♃ l.	♂ n	♀ l.	☿ n
1	0 42	2 17	0 57	0 35	4 9	1 46
13	0 42	2 20	0 54	0 41	4 19	1 32
25	0 42	2 22	0 51	0 48	4 0	0 4

New Moon 8 day, 5 mor.
Firſt Quart. 16 day, 9 mor.
Full Moon 23 day, 7 mor.
Laſt Quart. 29 day, 11 night

JULY hath XXXI Days.

Heliocentric Longitude.

D	♅ ♌	♄ ♉	♃ ♐	♂ ♊	♀ ♒	☿ ♌	☊ ♍
1	23 32	7 46	0 36	18 52	1 39	10 56	8 59
7	23 37	7 59	1 4	21 52	11 8	10 ♍ 46	8 40
13	23 41	8 12	1 33	24 51	20 38	5 ♎ 25	8 21
19	23 46	8 25	2 1	27 48	0 ♓ 7	26 15	8 2
25	23 51	8 35	2 29	0 ♋ 43	9 37	14 ♏ 38	7 43

M D	W D	Feſtival Days.	Aſpects & Wea.	☉ ♋	♅ ♌	♄ ♉	♃ ♏	♂ ♊	♀ ♊	☿ ♋	☽ ♈	☽ lat ſou.	☽ de. north	☽ riſes.
1	M	Cam. Com.	Briſk	9	21	13	22	27	1	17	20 58	3 30	4 57	0 8
2	T	Viſit. V. M.	☌ ☽ ♄	10	21	13	22	27	2	19	4 ♉ 21	4 16	8 58	0 35
3	W	♀ ri. 3. 28 m	△ ♃ ☿	11	21	13	22	28	2	21	17 30	4 47	12 28	1 5
4	T	T. St. Mart.	☌ ☽ ♀	12	21	13	22	29	3	23	0 ♊ 15	5 4	15 19	1 37
5	F	Old Midſ. d.	C. T. e.	13	21	13	22	29	3	25	13 8	5 4	17 22	2 14
6	S	♃ ſo. 8. 15 n	gales of	14	21	13	22	♋	4	27	25 38	4 51	18 33	2 52
7	F	6 S. aft Tr.	wind, with	15	21	13	22	1	4	29	7 ♋ 58	4 23	18 51	3 36
8	M	Oxford Act	rain.	16	21	13	22	1	5	♌	20 7	3 44	18 15	☽ ſet
9	T	Cl. faſt 4′ 47″	☌ ☽ ☿	17	21	18	22	2	5	3	2 ♌ 7	2 56	16 51	8a31
10	W	♀ ri. 1. 27 m	☌ ☽ ♅	18	21	13	22	3	6	4	14 0	2 0	14 44	9 3
11	T	♄ riſ. 0. 3 m	✶ ♀ ☿	19	21	13	22	3	7	6	25 48	0 59	12 0	9 31
12	F	♃ ſo. 7. 50 n		20	22	13	22	4	7	8	7 ♍ 34	on 4	8 48	9 55
13	S	Oxf. T. ends		21	22	14	22	5	8	10	19 23	1 8	5 15	10 21
14	F	7 S. aft. Tr.	□ ♅ ♃	22	22	14	22	5	9	11	1 ♎ 17	2 9	1 28	10 44
15	M	Swithin	[△ ☉ ♃	23	22	14	22	6	9	13	13 23	3 6	2 ſ 26	11 7
16	T	♀ ri. 1. 11 m		24	22	14	22	7	10	15	25 45	3 55	6 19	11 33
17	W	♄ ri. 11. 26 n		25	22	14	22	7	11	16	8 ♏ 28	4 34	10 1	Morn
18	T	Cl. faſt 5. 47	☌ ☽ ♃	26	22	14	D	8	12	18	21 36	5 0	13 20	0 0
19	F	♃ ſet 11. 55 n	Windy,	27	22	14	22	9	12	19	5 ♐ 12	5 11	16 5	0 32
20	S	Margaret	☌ ♅ ☿	28	22	14	22	9	13	21	19 16	5 4	17 59	1 15
21	F	8 S. aft. Tr.	□ ♃ ☿	29	22	14	22	10	14	22	3 ♑ 46	4 37	18 47	2 4
22	M	Magdalen	with rain &	29	22	14	22	11	15	24	18 37	3 51	18 21	3 4
23	T	☿ ſet 8. 55 n	thunder	♌	22	14	22	11	16	25	3 ♒ 41	2 49	16 36	☽ riſ.
24	W	Mag. Col. E.		1	22	14	22	12	16	27	18 50	1 34	13 42	8 37
25	T	St. James		2	22	14	22	13	17	28	3 ♓ 51	0 13	9 53	9 12
26	F	St. Ann	MVM	3	22	14	22	13	18	29	18 42	1 ſ. 7	5 30	9 42
27	S	Cl. faſt 6. 3		4	22	14	22	14	19	♍	3 ♈ 12	2 22	0 54	10 11
28	F	9 S. aft. Tr.		5	22	14	22	15	20	2	17 20	3 26	3 n 38	10 37
29	M	♀ ri. 0. 53 m		6	23	15	22	15	21	3	1 ♉ 5	4 17	7 51	11 6
30	T	♃ ſet 11. 0 n	☌ ☽ ♄	7	23	15	22	16	22	4	14 27	4 51	11 33	11 33
31	W	♄ ri. 10. 57 n	✶ ♅ ♀	8	23	15	22	17	23	5	27 29	5 10	14 35	Morn

D	D. L. beg.	Sun riſe	Sun ſet.	D. L. ends	leng. of D.	Day dec.	Declination. ☉ n	♅ n	♄ n	♃ ſ.	♂ n	♀ n	☿ n
1	all	3 44	8 16	Day	16 32	0 2	23 5	15 2	13 36	17 31	24 1	16 28	24 5
7		3 48	8 12		16 24	0 10	22 32	14 55	13 44	17 28	24 6	16 52	22 6
13		3 53	8 7		16 14	0 20	21 46	14 49	13 51	17 27	24 3	17 29	19 11
19		3 59	8 1		16 2	0 32	20 45	14 42	13 58	17 28	23 53	18 12	15 44
25	0 51	4 8	7 52	11 9	15 51	0 50	19 32	14 35	14 3	17 30	23 35	18 56	12 6

AUGUST hath XXXI Days.

Geocentric Latitude.

D	♅ n	♄ ſ.	♃ n	♂ n	♀ ſ.	☿ ſ.
1	0 42	2 23	0 49	0 51	3 39	1 8
13	0 42	2 20	0 47	0 57	2 55	3 20
25	0 42	2 29	0 44	1 2	2 3	4 33

Heliocentric Longitude.

D	♅ ♌	♄ ♉	♃ ♐	♂ ♋	♀ ♓	☿ ♐	☊ ♍
1	23 50	8 53	3 3	4 6	20 45	4 27	7 20
7	24 1	9 6	3 31	6 58	0♈17	20 56	7 1
13	24 6	9 19	3 59	9 49	9 50	7♑47	6 42
19	24 10	9 32	4 28	12 38	19 24	25 47	6 23
25	24 15	9 45	4 56	15 26	28 58	15♒50	6 4

New Moon 6 day, 8 night

First Quart. 14 day, 9 night

Full Moon 21 day, 3 aft.

Laſt Quart. 28 dav, 0 mor.

M D	W D	Feſtival Days.	Aſpects & Wea.	☉ ♌	♅ ♌	♄ ♉	♃ ♏	♂ ♋	♀ ♊	☿ ♍	☽ ♊	☽ lat ſou.	☽ dec north	☽ riſes.
1	T	Lammas	Briſk	9	23	15	22	17	23	6	10 14	5 13	16 50	0 12
2	F	Cl. faſt 5′.47	☌ ☽ ☿	10	23	15	22	18	24	7	22 43	5 1	18 15	0 51
3	S	♀ riſ. 1.55m	gales	11	23	15	22	19	25	8	4♋59	4 35	18 40	1 31
4	**F**	**10 S.aft.Tr.**	☌ ☽ ♂	12	23	15	22	19	26	9	17 5	3 58	18 26	2 21
5	M	♄ ri. 10.29n	of wind.	13	23	15	22	20	27	10	29 4	3 10	17 16	3 15
6	T	**Tr. of God,**	□ ☉ ♄	14	23	15	22	21	28	11	10♌56	2 14	15 21	☽ ſets
7	W	**then name**	△ ♃ ♂	15	23	15	22	21	29	12	22 45	1 13	12 48	7a34
8	T	**of Jeſus**	Rain	16	23	15	22	22	♋	12	4♍31	0 8	9 44	8 2
9	F	Cl. faſt 5′. 3	and	17	23	15	22	23	1	13	16 19	0n57	6 17	8 26
10	S	St. Lawren.	thunder	18	23	15	22	23	2	14	28 10	2 0	2 34	8 50
11	**F**	**11 S.aft.Tr.**	**PBru.b**	19	23	15	22	24	3	14	10♎7	2 53	1ſ17	9 13
12	M	**Pr. Wales b.**		20	23	15	23	24	4	15	22 16	3 49	5 8	9 37
13	T	♀ ri. 0.52m	△ ♄ ☿	21	23	15	23	25	5	15	4♏38	4 31	8 49	10 5
14	W	♄ riſ. 9. 56n	☌ ☽ ♃	22	24	15	23	26	6	15	17 19	5 1	12 13	10 36
15	T	**Aſ. B.V.M.**		22	24	15	23	26	7	16	0♐23	5 16	15 6	11 11
16	F	**Du. York b.**		23	24	15	23	27	8	16	13 51	5 14	17 17	11 55
17	S	♃ ſet 10. 6 n		24	24	15	23	28	9	℞	27 47	4 55	18 31	Morn
18	**F**	**12 S.aft.Tr.**		25	24	15	23	28	10	16	12♑8	4 17	18 39	0 47
19	M	♀ riſ. 0.56m	Windy	26	24	15	23	29	11	16	26 54	3 21	17 31	1 51
20	T	B.G.ſh.beg.	△ ♄ ☿	27	24	15	23	♌	12	16	11♒56	2 10	15 9	3 3
21	W	**Du. Clar. b.**	with	28	24	15	23	0	13	15	27 8	0 40	11 43	☽ riſe
22	T	Cl. faſt 2′.26	✱ ♀ ☿	29	24	15	23	1	14	15	12♓19	0ſ35	7 29	7 43
23	F	♄ riſ. 9.23n	✱ ♄ ♀	♍	24	15	23	2	15	14	27 21	1 56	2 50	8 14
24	S	**St. Barthol.**	ſhowers	1	24	15	24	2	16	14	12♈5	3 8	1n54	8 43
25	**F**	**13 S.aft.Tr.**		2	24	15	24	3	17	13	26 26	4 5	6 24	9 12
26	M	♀ riſe 1. 4m	☌ ☽ ♄	3	24	15	24	3	19	12	10♉21	4 47	10 24	9 44
27	T	♃ ſet 9. 31 n		4	24	15	24	4	20	11	23 49	5 11	13 43	10 18
28	W	St. Auſtin		5	24	℞	24	5	21	10	6♊53	5 18	16 15	10 55
29	T	**St. John be-**		6	24	15	24	5	22	9	19 34	5 9	17 55	11 38
30	F	**headed**		7	25	15	24	6	23	9	1♋57	4 46	18 41	Morn
31	S	Cl. ſlow 0′.7	☌ ☽ ♀	8	25	15	24	7	24	8	14 6	4 11	18 34	0 25

							Declination.						
D	D. L. beg.	Sun riſe	Sun ſet.	D. L. ends	leng. of D.	Day lec.	☉ n	♅ n	♄ n	♃ ſ.	♂ n	♀ n	☿ n
1	1 23	4 18	7 42	10 37	15 24	1 10	17 53	14 27	14 8	17 35	23 7	19 41	7 59
7	1 50	4 28	7 32	10 10	15 4	1 30	16 16	14 20	14 11	17 41	22 35	20 10	4 53
13	2 9	4 38	7 22	9 51	14 44	1 50	14 29	14 13	14 12	17 49	21 59	20 26	2 35
19	2 30	4 49	7 11	9 30	14 22	2 12	12 35	14 5	14 13	17 58	21 15	20 28	1 32
25	2 47	5 0	7 0	9 13	14 0	2 34	10 33	13 57	13 13	18 8	20 27	20 13	2 19

SEPTEMBER hath XXX Days.

Geocentric Latitude.

D	♅ n	♄ ſ.	♃ n	♂ n	♀ ſ.	☿ ſ.
1	0 42	2 30	0 42	1 6	1 32	3 36
13	0 42	2 33	0 40	1 11	0 39	0n 0
25	0 42	2 35	0 38	1 16	0n 9	1 50

New Moon 5 day, noon
First Quart. 13 day, 8 mor.
Full Moon 19 day, 11 night
Last Quar. 26 day, midn.

Heliocentric Longitude.

D	♅ ♌	♄ ♉	♃ ♐	♂ ♋	♀ ♉	☿ ♓	☊ ♍
1	24 20	10 0	5 28	18 40	10 9	13 21	5 42
7	24 25	10 13	5 57	21 26	19 40	11♈59	5 23
13	24 29	10 20	6 25	24 11	29 24	15♉53	5 4
19	24 34	10 39	6 54	26 54	9♊ 3	23♊20	4 45
25	24 39	10 52	7 22	29 37	18 43	29♋51	4 26

M D	W D	Feſtival Days.	Aſpects & Wea.	☉ ♍	♅ ♌	♄ ♉	♃ ♏	♂ ♌	♀ ♋	☿ ♍	☽ ♋	☽ lat ſou.	☽ dec north	☽ riſes.
1	F	14 S.aft.Tr.	Giles	9	25	15	24	7	25	7	26 4	3 25	17 37	1 16
2	M	Lond.burnt	☌ ☽ ♂	10	25	15	25	8	26	6	7♌56	2 30	15 53	2 13
3	T	♀ riſ.1.18m	□ ♅ ♃	11	25	15	25	9	27	5	19 43	1 30	13 30	3 11
4	W	♄ riſ.8.29n	☌ ☽ ☿	12	25	15	25	9	28	4	1♍30	0 25	10 33	4 12
5	T	♃ ſet 9.0 n	Wind	13	25	15	25	10	29	4	13 19	0n40	7 11	☽ ſets
6	F	Cl.ſlow 2′.2	and	14	25	15	25	10	♌	3	25 11	1 44	3 31	7a 1
7	S	Enurchus	rain.	15	25	15	25	11	2	3	7♎10	2 44	0ſ20	7 25
8	F	15S.aft.Tr.	N BVM	16	25	15	25	12	3	2	19 17	3 38	4 12	7 49
9	M	♂ riſ. 2. 6m		17	25	15	25	12	4	D	1♏34	4 22	7 56	8 15
10	T	♀ riſ.1.32m	☌ ☽ ♃	18	25	15	26	13	5	2	14 3	4 54	11 23	8 45
11	W	♄ riſ. 8.14n	Rain	19	25	15	26	14	6	2	26 48	5 13	14 23	9 18
12	T	♃ ſet 8. 39n	and	20	25	15	26	14	7	3	9♐51	5 16	16 44	9 57
13	F	Cl.ſlo.4.26	□ ♄ ♂	21	25	15	26	15	8	3	23 14	5 2	18 15	10 44
14	S	Holy Croſs	thunder	22	25	15	26	15	9	4	6♑59	4 32	18 46	11 43
15	F	16 S.aft.Tr.	B. H.	23	25	15	26	16	11	5	21 6	3 44	18 8	Morn
16	M	♄ riſ.7.58n		24	26	15	27	17	12	6	5♒35	2 40	16 18	0 50
17	T	Lambert	Cold	24	26	15	27	17	13	7	20 21	1 25	13 22	2 2
18	W	Em. Week	□ ♄ ♀	25	26	15	27	18	14	8	5♓20	0 3	9 30	3 16
19	T	♂ ri.2. 12m	rain.	26	26	15	27	19	15	9	20 25	1ſ19	5 1	☽ riſ.
20	F	♀ ri.1. 57m		27	26	15	27	19	16	10	5♈25	2 36	0 13	6a48
21	S	St. Matt.		28	26	15	27	20	17	12	20 14	3 40	4n30	7 19
22	F	17 S.aft.Tr.	△ ♄ ☿	29	26	15	27	20	19	13	4♉42	4 30	8 52	7 51
23	M	[K.G.III.c	Windy	♎	26	15	28	21	20	15	18 45	5 1	12 35	8 25
24	T	♂ riſ. 2.5m	with	1	26	15	28	22	21	17	2♊21	5 14	15 31	9 1
25	W	♀ ri.2.12m	☌ ♂ ♀	2	26	15	28	22	22	18	15 31	5 10	17 32	9 43
26	T	St. Cyprian	ſhowers	3	26	15	28	23	23	20	28 15	4 51	18 37	10 30
27	F	♄ riſ.7. 16n	of rain.	4	26	14	28	24	24	22	10♋38	4 18	18 45	11 19
28	S	Sh. L.ſwor.	☌ ♅ ♀	5	26	14	28	24	26	23	22 45	3 35	18 1	Morn
29	F	18S.aft.Tr.	St Mic.	6	26	14	29	25	27	25	4♌40	2 43	16 29	0 14
30	M	St. Jer.	Prs. R.	7	26	14	29	25	28	27	16 29	1 44	14 15	1 12
		[Hare-h. b.	born											

							Declination.						
D	D L. beg.	Sun riſe	Sun ſet.	D.L. ends	leng. of D.	Day dec.	☉ n	♅ n	♄ n	♃ ſ.	♂ n	♀ n	☿ n
1	3 8	5 14	6 46	8 52	13 32	3 2	8 3	13 49	14 11	18 20	19 25	19 34	5 33
7	3 23	5 25	6 35	8 37	13 10	3 24	5 49	13 42	14 8	18 32	18 39	18 39	8 41
13	3 40	5 37	6 23	8 20	12 46	3 48	3 32	13 35	14 5	18 45	17 23	17 26	10 8
19	3 54	5 49	6 11	8 6	12 22	4 12	1 13	13 27	14 0	18 59	15 56	15 56	9 9
25	4 5	6 0	6 0	7 55	12 0	4 34	1 ſ. 7	13 20	13 54	19 14	14 8	14 8	6 8

Geocentric Latitude.						
D	♅ n	♄ l.	♃ n	♂ n	♀ n	☿ n
1	0 42	2 36	0 37	1 18	0 31	1 50
13	0 43	2 37	0 35	1 23	1 6	0 55
25	0 43	2 38	0 34	1 28	1 31	0ſ24

OCTOBER hath XXXI Days.

New Moon 5 day, 5 morn.
Firſt Quart. 12 day, 5 night
Full Moon 19 day, 9 morn.
Laſt Quart. 26 day, 6 night

Heliocentric Longitude.							
D	♅ ♌	♄ ♉	♃ ♐	♂ ♌	♀ ♊	☿ ♍	☊ n
1	24 44	11 5	7 51	2 19	28 25	1 34	4
7	24 48	11 18	8 19	5 0	8 ♋ 7	27 47	3 4
13	24 53	11 31	8 47	7 41	17 50	19 ♎ 42	3 2
19	24 58	11 44	9 16	10 21	27 35	8 ♏ 45	3
25	25 3	11 57	9 45	13 0	7 ♌ 20	26 8	2 5

M D	W D	Feſtival Days.	Aſpects & Wea.	☉ ♎	♅ ♌	♄ ♉	♃ ♏	♂ ♌	♀ ♌	☿ ♍	☽ ♌	☽ lat ſou.	☽ de. north	☽ riſes
1	T	Remigius	☌ ♅ ♂	8	26	14	29	26	29	29	28 15	0 41	11 27	2 1
2	W	[Ph.ſh. be.	Windy	9	26	14	29	27	♍	♎	10 ♍ 3	0n23	8 10	3 1
3	T	♂ ri. 2. 5 m	with turbu-	10	26	14	29	27	1	2	21 56	1 27	4 32	4 1
4	F	♀ ri. 2.27m	lent	11	26	14	♐	28	3	4	3 ♎ 57	2 28	0 41	5 2
5	S	♄ ri. 6. 44 n	ſhowers	12	27	14	0	28	4	6	16 8	3 22	3 ſ14	☽ ſets
6	F	19 S. af. Tr.	Faith	13	27	14	0	29	5	8	28 29	4 8	7 5	6a2
7	M	Cl.ſl.12′ 19″	of rain.	14	27	14	0	♍	6	9	11 ♏ 2	4 42	10 40	6 5
8	T	♂ ri. 2.4 m	□ ♃ ♂	15	27	14	0	0	7	11	23 47	5 4	13 50	7 2
9	W	♀ ri. 2.32m		16	27	14	0	1	9	13	6 ♐ 45	5 10	16 22	8
10	T	O.&C.T.b.		17	27	14	1	1	10	15	19 57	4 59	18 6	8 5
11	F	♄ ri. 6. 23 n		18	27	14	1	2	11	16	3 ♑ 22	4 33	18 53	9 4
12	S	Cl.ſlo.13.36	Cold	19	27	14	1	3	12	18	17 3	3 51	18 34	10 4
13	F	20 S. af. Tr.	△ ♄ ♀	20	27	13	1	3	13	20	0 ♒ 59	2 54	17 8	11 5
14	M	[Tr.K.Ed.	(☌ ☉ ☿	21	27	13	1	4	15	22	15 10	1 46	14 37	Morn
15	T		rain.	22	27	13	2	5	16	23	29 35	0 30	11 10	1
16	W			23	27	13	2	5	17	25	14 ♓ 12	0ſ40	6 59	2 23
17	T	Ethel. Virg.	✱ ♅ ☿	24	27	13	2	6	18	27	28 55	2 5	2 21	3 41
18	F	St. Luke		25	27	13	2	6	19	28	13 ♈ 39	3 13	2n26	5 1
19	S	St. Frideſwi.		26	27	13	2	7	21	♏	28 15	4 7	7 1	☽ riſ.
20	F	21 S. af. Tr.	✱ ☉ ♅	27	27	13	3	8	22	1	12 ♉ 38	4 44	11 7	6a25
21	M	Cl.ſlo.15.22		28	27	13	3	8	23	3	26 41	5 3	14 30	7 1
22	T	♂ riſe 2.0 m		29	27	13	3	9	24	5	10 ♊ 19	5 5	16 59	7 47
23	W	♀ ri. 3.32 m		♏	27	13	3	9	25	6	23 31	4 49	18 29	8 32
24	T	♄ ri. 5. 32 n	Wind	1	27	13	3	10	27	8	6 ♋ 19	4 20	18 50	9 15
25	F	K.G.III.ac.	Criſp.	2	27	13	4	11	28	9	18 45	3 39	18 32	10 10
26	S	K.G.III.pr.	☍ ♄ ☿	3	27	13	4	11	29	11	0 ♌ 54	2 49	17 14	11 8
27	F	22 S. af. Tr.	& rain.	4	27	12	4	12	♎	13	12 49	1 52	15 12	Morn
28	M	St. Si. & Ju.	△ ♄ ♂	5	27	12	4	12	2	14	24 38	0 51	12 32	0 7
29	T	Cl. ſl. 16.10		6	27	12	4	13	3	16	6 ♍ 25	0n12	9 21	1 8
30	W	♂ ri. 1 .57 m	✱ ♃ ♀	7	28	12	5	14	4	17	18 15	1 15	5 48	2 10
31	T	♀ ri. 3.58m		8	28	12	5	14	5	19	0 ♎ 13	2 15	1 58	3 14

D	D. L. beg.	Sun riſe	Sun ſets	D. L ends	leng. of D.	Day dec.	Declination.						
							☉ ſ.	♅ n	♄ n	♃ ſ.	♂ n	♀ n	☿ n
1	4 16	6 12	5 48	7 44	11 36	4 58	3 28	13 15	13 48	19 28	13 56	12 6	1 58
7	4 29	6 24	5 36	7 31	11 12	5 22	5 47	13 9	13 41	19 42	12 41	9 40	2ſ35
13	4 41	6 35	5 25	7 19	10 50	5 44	8 3	13 4	13 33	19 57	11 25	7 22	7 6
19	4 53	6 47	5 13	7 7	10 26	6 8	10 15	12 59	13 25	20 12	10 7	4 46	11 21
25	5 4	6 50	5 1	6 56	10 2	6 30	12 22	12 54	13 16	20 27	8 48	2 3	15 12

NOVEMBER hath XXX Days.

Geocentric Latitude.

☽	♅ n	♄ ſ.	♃ n	♂ n	♀ n	☿ ſ.
1	0 43	2 38	0 33	1 31	1 40	1 9
3	0 44	2 37	0 31	1 35	1 45	2 11
5	0 44	2 37	0 30	1 40	1 39	2 26

New Moon 3 day, 8 night
irſt Quart. 11 day, 1 mor.
ull Moon 17 day, 9 night
aſt Quart. 25 dav. 3 after.

Heliocentric Longitude.

D	♅ ♌	♄ ♉	♃ ♐	♂ ♌	♀ ♌	☿ ♐	☊ ♍
1	25 8	12 12	10 18	16 5	18 43	15 28	2 28
7	25 12	12 25	10 47	18 44	28 28	2♑7	2 9
13	25 16	12 38	11 15	21 22	8♍13	19 38	1 50
19	25 21	12 51	11 44	23 59	17 58	8♒55	1 31
25	25 26	13 4	12 13	26 37	27 42	0♓59	1 12

M D	W D	Feſtival Days.	Aſpects & Wea.	☉ ♏	♅ ♌	♄ ♉	♃ ♐	♂ ♍	♀ ♎	☿ ♏	☽ ♎	☽ lat nor.	☽ de. ſouth	☽ riſes.
1	F	All Saints	Cold	9	28	12	5	15	6	20	12 22	3 0	1 59	4 17
2	S	All Souls	[All.S	10	28	12	5	15	8	22	24 46	3 56	5 57	5 22
3	F	23 S. af. Tr.	Col. el	11	28	12	6	16	9	23	7♏24	4 31	9 43	☽ ſets
4	M	Revo. 1688	1 retu.	12	28	12	6	16	10	25	20 18	4 54	13 7	5a35
5	T.	Powd. Plot	☍ ☉ ♄	13	28	12	6	17	11	26	3♐25	5 2	15 55	6 7
6	W	Mic.T.beg.	☌ ☽ ♃	14	28	12	6	18	13	28	16 46	4 53	17 56	6 49
7	T	♄ ſo.11.47n	rain or ſleet at	15	28	12	6	18	14	29	0♑17	4 20	18 59	7 40
8	F	Prs.A.So.b.	the be-	16	28	11	7	19	15	♐	13 58	3 48	18 57	8 38
9	S	L.M.D.Lo.	ginning	17	28	11	7	19	16	2	27 46	2 54	17 47	9 44
0	F	24 S.af.Tr.		18	28	11	7	20	17	4	11♒42	1 49	15 33	10 55
1	M	St. Martin	Turbu- lent	19	28	11	7	21	19	5	25 44	0 57	12 23	Morn
2	T	2 return	☌ ♃ ☿	20	28	11	7	21	20	7	9♓53	0ſ38	8 28	0 10
3	W	Britius	cloudy	21	28	11	8	22	21	8	24 7	1 51	4 2	1 25
4	T	Cl.ſl. 15′12″	air,	22	28	11	8	22	22	10	8♈25	2 57	0n38	2 42
5	F	Machutus	with	23	28	11	8	23	24	11	22 42	3 52	5 15	3 59
6	S	♂ ri. 1.44m	☌ ☽ ♄	24	28	11	8	23	25	12	6♉55	4 32	9 33	5 14
7	F	25 S. af.Tr.		25	28	11	9	24	26	14	20 58	4 55	13 16	☽ riſ.
8	M	[Hu.B.Lin.	3 retu.	26	28	11	9	25	27	15	4♊46	5 0	16 11	5 33
9	T	♀ ri. 4.53 m	□ ☉ ♅	27	28	11	9	25	29	17	18 15	4 48	18 10	6 14
0	W	Edm. K.M.	rain or	28	28	11	9	26	♏	18	1♋22	4 21	19 6	7 2
1	T	♄ ſo.10.45n	ſleet.	29	28	10	9	26	1	19	14 9	3 42	19 2	7 54
2	F	Cecilia	Cold	♐	28	10	10	27	2	21	26 35	2 52	18 3	8 51
3	S	St. Clement	rain or	1	28	10	10	27	4	22	8♌44	1 56	16 14	9 51
4	F	26 S. af.Tr.	☌ ☽ ♅	2	28	10	10	28	5	23	20 41	0 55	13 44	10 51
5	M	♀ ri. 5.10m	ſleet at	3	28	10	10	29	6	24	2♍30	0n 7	10 42	11 51
6	T	♂ ri. 1.34m	the end.	4	28	10	11	29	7	25	14 18	1 9	7 15	Morn
7	W	♄ ſo.10.18n	☌ ☽ ♂	5	28	10	11	♎	9	27	26 9	2 8	3 30	0 53
8	T	Bal.Col.El.	△ ♅ ☿	6	28	10	11	0	10	28	8♎10	3 3	0ſ27	1 57
9	F	[Mic.T.e.	(☍ ♄ ♀	7	28	10	11	1	11	29	20 24	3 50	4 26	3 3
0	S	St. Andrew	☌ ☽ ♀	8	28	10	12	1	12	29	2♏56	4 26	8 20	4 7
		[Anni. me.	Ko.So.											

	D. L. beg.	Sun riſe	Sun ſet.	D. L ends	leng. of D.	Day dec.
1	5 15	7 11	4 49	6 45	9 38	6 56
7	5 24	7 21	4 39	6 36	9 18	7 16
3	5 31	7 31	4 29	6 29	8 58	7 36
9	5 37	7 40	4 20	6 23	8 40	7 54
5	5 44	7 49	4 11	6 16	8 22	8 12

Declination.

☉ ſ.	♅ n	♄ n	♃ ſ.	♂ n	♀ ſ.	☿ ſ.
14 41	12 50	13 7	20 43	7 15	1 13	19 5
16 31	12 47	12 58	20 58	5 55	4 2	21 51
18 11	12 44	12 50	21 11	4 35	6 50	23 56
19 40	12 43	12 42	21 24	3 15	9 33	25 17
20 55	12 42	12 34	21 36	1 55	12 9	25 48

DECEMBER hath XXXI Days.

Geocentric Latitude.

D	♅ n	♄ ſ.	♃ n	♂ n	♀ n	☿ ſ
1	0 45	2 35	0 30	1 42	1 32	1 59
13	0 45	2 32	0 29	1 47	1 12	1 n 0
25	0 45	2 29	0 27	1 52	0 45	3 4

New Moon 3 day, 11 mor.
Firſt Quart. 10 day, 8 mor.
Full Moon 17 day, 11 mor.
Laſt Quart. 25 day, 1 after.

Heliocentric Longitude.

☽	♅ ♌	♄ ♉	♃ ♐	♂ ♌	♀ ♎	☿ ♓	☊ ♍
1	25 31	13 17	12 41	29 14	7 25	27 9	0 53
7	25 35	13 30	13 10	1 ♍ 51	17 6	0 ♈ 28	0 34
13	25 40	13 43	13 39	4 29	26 46	4 ♊ 30	0 15
19	25 45	13 57	14 7	7 6	6 ♏ 24	12 ♋ 14	29 56
25	25 50	14 10	14 36	9 43	16 1	16 ♌ 37	29 26

M D	W D	Feſtival Days.	Aſpects & Wea.	☉ ♐	♅ ♌	♄ ♉	♃ ♐	♂ ♎	♀ ♏	☿ ♑	☽ ♏	☽ lat nor.	☽ dec ſouth	☽ riſes.
1	**F**	**Advent Su.**	Rain at	9	28	10	12	2	14	0	15 43	4 51	11 57	5 13
2	M	Cl. ſlo. 9′. 59	the beg.	10	℞	10	12	2	15	1	29 0	5 1	15 4	6 23
3	T	☿ ſet 5.12 n	☌ ☽ ♃	11	28	10	12	3	16	2	12 ♐ 30	4 54	17 23	☽ ſets
4	W	♄ ſo. 9. 47n	☌ ☉ ♃	12	28	10	12	4	17	3	26 17	4 30	18 54	5a23
5	T	♂ ri. 1.23m		13	28	10	13	4	19	2	10 ♑ 15	3 50	19 15	6 22
6	F	Nicholas		14	28	9	13	5	20	3	24 21	2 55	18 23	7 27
7	S	♀ ri. 5. 44m		15	28	9	13	5	21	℞	8 ♒ 30	1 50	16 23	8 37
8	**F**	**2 S. in Adv.**		16	28	9	13	6	22	3	22 40	0 37	13 23	9 51
9	M	Cl. ſlo. 6′. 58		17	28	9	14	6	24	2	6 ♓ 49	0ſ 38	9 37	11 8
10	T	♄ ſo. 9. 19n		18	28	9	14	7	25	2	20 54	1 51	5 18	Morn
11	W	♂ ri. 1. 20m		20	28	9	14	7	26	1	4 ♈ 56	2 56	0 44	0 22
12	T	♀ ri. 5. 56m	□ ♅ ♀	21	28	9	14	8	27	0	18 54	3 51	3n51	1 36
13	F	Lucy	☌ ☽ ♄	22	28	9	14	8	29	♐	2 ♉ 47	4 31	8 12	2 51
14	S	♄ ſou. 9. 1n	△ ♅ ☿	23	28	9	15	9	♐	28	16 32	4 56	12 4	4 3
15	**F**	**3 S. in Adv.**	Froſty	24	28	9	15	9	1	27	0 ♊ 8	5 3	15 16	5 13
16	M	Cl. ſlo. 3′. 38	☌ ☉ ☿	25	28	9	15	10	2	25	13 32	4 53	17 36	6 21
17	T	Oxf. T. end	with	26	28	9	15	11	4	24	26 41	4 28	18 57	☽ riſ.
18	W	**Emb. Week**	ſnow or	27	28	9	16	11	5	23	9 ♋ 34	3 50	19 18	5 31
19	T	♀ ri. 6.13m	△ ☉ ♅	28	28	9	16	12	6	21	22 11	3 1	18 40	6 26
20	F	♄ ſo. 8. 32 n	rain.	29	28	9	16	12	7	20	4 ♌ 31	2 4	17 9	7 24
21	S	**St. Thomas**		♑	28	9	16	13	9	19	16 38	1 2	14 53	8 25
22	**F**	**4 S. in Adv.**	Turbu-	1	28	9	16	13	10	18	28 34	0 n 1	12 0	9 27
23	M	♀ ri. 6. 23m	lent	2	28	9	17	14	11	18	10 ♍ 23	1 5	8 41	10 28
24	T	Cl. faſt 0. 21	towards	3	28	9	17	14	12	17	22 10	2 5	5 1	11 29
25	W	**Chriſtm. d.**	the end.	4	28	9	17	15	14	17	4 ♎ 2	3 0	1 9	Morn
26	T	**St. Stephen**		5	28	9	17	15	15	16	16 2	3 48	2ſ48	0 32
27	F	**St. John**	☌ ♀ ☿	6	28	9	18	16	16	D	28 17	4 27	6 43	1 36
28	S	**Innocents**	☌ ♃ ♀	7	28	9	18	16	17	17	10 ♏ 50	4 54	10 26	2 41
29	**F**	**S. aft. Chr.**	☌ ☽	8	28	9	18	17	19	17	23 46	5 7	13 46	3 43
30	M	♂ ri. 0. 45m	☿ ♀	9	28	9	18	17	20	17	7 ♐ 6	5 4	16 31	4 56
31	T	Silveſter	☌ ♃ ☿	10	28	8	18	18	21	18	20 51	4 44	18 26	6 2

D	D. L. beg.	Sun riſe	Sun ſet.	D. L ends	leng. of D.	Day dec.
1	5. 49	7 55	4 5	6 11	8 10	8 24
7	5 54	8 0	4 0	6 6	8 0	8 34
13	5 57	8 3	3 57	6 3	7 54	8 40
19	5 58	8 5	3 55	6 2	7 50	8 44
25	5 58	8 5	3 55	6 2	7 50	8 44

Declination.

☉ ſ.	♅ n	♄ n	♃ ſ.	♂ n	♀ ſ.	☿ ſ.
21 57	12 41	12 28	21 48	0 36	14 35	25 27
22 43	12 41	12 22	21 59	0ſ. 40	16 49	24 17
23 13	12 42	12 17	22 9	1 55	18 47	22 28
23 27	12 44	12 14	22 18	3 7	20 27	20 33
23 24	12 12	12 12	22 27	4 16	21 45	19 47

A TABLE of Minutes; or the Reſidue of the Planets Places.

	January.							February.							March.						
	☉	♅	♄	♃	♂	♀	☿	☉	♅	♄	♃	♂	♀	☿	☉	♅	♄	♃	♂	♀	☿
1	39	15	22	15	28	43	44	12	5	32	4	53	59	43	26	53	51	33	43	45	55
2	41	14	22	26	15	1	21	13	3	36	11	40	9	1	26	50	57	36	29	50	42
3	42	12	23	36	2	14	2	14	0	40	18	27	19	20	26	48	3	39	15	54	30
4	43	10	24	47	50	27	49	15	57	44	25	14	29	41	26	45	9	41	1	58	20
5	44	8	25	57	37	40	42	15	55	48	32	1	39	3	26	43	15	44	48	2	11
6	45	6	26	8	24	53	40	16	52	52	39	48	49	26	26	40	21	46	34	6	2
7	46	4	27	18	11	5	43	17	49	56	46	35	59	51	26	38	28	48	20	10	54
8	48	2	29	28	58	18	6	18	47	0	52	22	8	17	26	36	34	50	6	13	47
9	49	0	30	39	46	31	34	18	44	5	59	9	17	44	26	34	41	51	52	15	42
10	50	58	31	49	33	43	12	19	41	9	5	56	26	10	25	32	47	53	38	18	39
11	51	56	33	59	20	56	59	20	39	14	11	43	35	38	25	30	54	54	24	20	37
12	52	54	35	9	7	8	55	20	36	19	17	30	44	7	25	28	1	55	10	22	35
13	53	51	37	19	55	21	59	21	33	24	23	17	53	38	25	26	8	56	56	23	33
14	55	49	39	29	42	33	11	21	31	29	28	4	1	10	25	24	14	56	42	24	32
15	56	47	41	38	29	46	31	22	29	34	34	51	9	42	24	22	21	57	28	25	31
16	57	44	43	48	17	58	57	22	26	39	39	38	17	15	24	20	28	57	14	26	31
17	58	42	45	57	4	10	29	23	23	44	44	25	26	49	23	18	34	57	0	26	31
18	59	40	47	7	51	22	7	23	21	49	49	12	34	24	23	16	41	57	46	25	32
19	0	38	50	16	39	34	49	24	18	55	54	58	42	0	22	14	48	57	31	24	32
20	1	36	52	25	26	45	35	24	15	0	58	45	49	37	22	12	55	56	17	23	32
21	2	33	55	34	13	56	26	24	13	6	3	31	56	15	21	10	2	56	3	21	31
22	3	31	58	43	1	8	20	25	10	11	8	18	3	54	21	8	9	55	48	18	29
23	4	28	1	52	48	19	18	25	7	17	12	4	10	34	20	6	16	54	34	15	25
24	5	26	4	0	35	31	19	25	5	22	16	51	17	15	19	4	23	53	19	11	19
25	6	23	7	8	23	43	22	25	2	28	20	37	23	57	19	2	31	52	4	7	11
26	7	21	10	16	10	54	27	26	0	33	24	24	29	40	18	1	38	50	50	2	0
27	8	18	14	24	57	5	35	26	57	39	27	10	35	24	17	59	45	49	35	57	46
28	9	15	17	32	44	16	45	26	55	45	30	56	40	9	16	58	52	47	20	51	29
29	10	13	20	40	32	27	57								16	56	59	45	6	44	8
30	11	10	24	48	19	38	11								15	55	7	43	51	37	42
31	11	8	28	55	6	49	25								14	54	14	41	36	29	11

	April.							May.							June.						
	☉	♅	♄	♃	♂	♀	☿	☉	♅	♄	♃	♂	♀	☿	☉	♅	♄	♃	♂	♀	☿
1	13	53	22	38	21	21	36	30	37	10	5	30	45	4	19	11	59	15	35	11	48
2	12	52	29	35	6	12	56	28	37	17	58	14	57	34	17	13	6	8	17	36	15
3	11	51	37	32	51	2	10	26	38	25	51	57	7	9	14	15	13	1	59	2	45
4	10	50	44	29	36	51	18	24	38	33	44	41	14	49	12	17	20	54	41	30	18
5	9	49	51	25	21	39	21	22	38	40	37	24	17	33	9	19	27	47	23	0	54
6	8	48	59	22	6	27	18	20	39	48	30	7	16	21	6	21	34	40	5	32	32
7	7	47	6	18	51	13	9	18	39	55	22	50	13	12	4	23	40	34	46	6	13
8	5	46	13	14	35	58	53	16	40	3	15	33	8	8	1	25	47	27	28	44	57
9	4	45	21	10	20	42	30	14	41	10	7	16	1	9	59	27	53	21	9	23	43
10	3	44	28	6	4	25	1	12	42	18	0	59	52	16	56	29	0	15	51	3	31
11	2	43	36	2	49	8	26	10	43	25	52	42	41	27	53	32	6	9	32	44	22
12	1	42	44	58	33	51	45	7	44	33	45	25	29	42	51	34	13	3	14	27	16
13	59	41	52	53	18	33	57	5	45	41	37	8	16	0	48	37	19	57	55	13	12
14	58	40	0	48	2	13	3	3	46	48	30	51	1	23	45	39	26	51	37	1	10
15	56	40	7	43	47	52	3	1	47	56	22	34	43	50	42	42	32	46	18	51	11
16	55	39	15	38	31	29	57	59	48	3	15	17	21	22	40	44	38	40	59	44	13
17	54	39	22	33	15	5	45	56	49	11	7	0	55	58	37	47	44	35	40	41	18
18	52	38	30	28	0	40	29	54	50	18	0	43	26	38	34	49	50	29	21	42	25
19	51	38	38	22	44	13	8	52	51	26	52	25	55	21	31	52	56	24	2	44	33
20	49	38	45	17	28	45	43	49	52	33	45	8	23	8	29	54	2	19	43	49	42
21	47	37	53	11	13	15	13	47	54	41	37	50	50	59	26	57	8	14	24	56	52
22	46	37	1	5	57	44	39	45	55	48	29	33	16	54	23	59	14	9	5	5	2
23	44	37	8	59	41	11	3	42	57	55	22	15	42	52	20	2	20	5	46	15	13
24	42	37	16	53	25	37	25	40	58	2	14	58	7	53	17	5	26	0	27	26	24
25	41	37	24	46	9	1	46	37	0	9	6	40	31	57	15	8	32	56	7	37	35
26	39	37	32	40	53	23	6	35	1	16	59	23	54	4	12	11	38	52	48	50	46
27	37	37	39	33	36	43	27	32	3	24	51	5	17	14	9	14	43	48	29	6	56
28	35	37	47	26	20	1	46	30	4	31	44	47	40	27	6	17	49	44	10	25	5
29	33	37	55	19	3	17	12	27	6	38	37	29	2	43	3	20	54	41	51	47	13
30	32	37	2	12	47	32	37	25	7	45	29	11	25	2	0	23	0	37	32	12	19
31								22	9	52	22	53	48	24							

A TABLE of Minutes, or the Reſidue of the Planets Places.

	July.							Auguſt.							September.						
	☉	♅	♄	♃	♂	♀	☿	☉	♅	♄	♃	♂	♀	☿	☉	♅	♄	♃	♂	♀	☿
1	58	20	5	34	12	40	25	34	11	11	22	48	58	47	25	7	47	56	45	29	7
2	55	29	11	31	52	7	29	31	14	14	25	27	53	49	23	11	46	3	23	35	13
3	52	32	16	28	32	36	31	28	18	16	28	7	49	49	21	14	46	11	1	42	23
4	49	35	21	25	13	6	31	26	21	19	31	46	46	46	19	18	45	19	39	48	38
5	47	38	26	22	53	37	29	24	25	21	34	25	42	40	18	22	44	27	17	54	0
6	44	41	31	20	33	9	26	21	29	24	37	4	39	30	16	25	43	35	55	0	29
7	41	44	36	18	14	42	22	19	33	26	41	43	37	16	14	29	42	43	33	7	4
8	38	47	40	16	54	17	16	16	37	28	45	22	36	59	13	33	41	51	11	14	47
9	35	51	45	14	34	54	7	14	41	30	49	1	35	39	11	36	40	59	49	21	40
10	33	54	49	12	15	23	55	12	45	32	53	40	34	15	9	40	38	8	27	28	44
11	30	58	54	11	55	4	42	9	49	34	57	19	33	47	8	43	37	16	4	35	57
12	27	1	58	10	35	46	28	7	52	36	1	58	32	16	6	47	35	24	42	43	18
13	24	4	3	9	15	29	12	5	56	37	5	36	31	40	5	50	33	33	19	51	47
14	22	8	7	8	55	12	54	2	0	39	10	15	31	59	3	54	31	42	57	59	25
15	19	11	12	7	35	56	34	0	4	40	14	54	32	13	2	57	29	51	34	7	12
16	16	15	16	6	15	40	12	58	8	42	19	32	33	21	1	1	27	0	12	15	9
17	14	18	20	6	55	24	48	55	12	43	24	11	34	24	59	4	25	9	49	23	13
18	11	22	24	6	35	8	22	53	15	44	29	50	36	22	58	8	23	18	27	32	23
19	8	25	28	6	14	53	54	51	19	45	34	28	38	14	57	11	20	28	4	41	38
20	5	29	32	6	54	39	24	49	23	45	40	7	41	0	55	15	18	38	42	50	59
21	3	32	36	7	34	26	52	47	26	46	45	45	44	40	54	18	15	48	19	59	25
22	0	36	39	7	13	13	19	44	30	46	51	23	47	15	53	22	13	58	56	8	55
23	57	39	43	8	53	3	44	42	34	46	57	2	50	44	52	25	10	8	33	17	29
24	54	43	47	9	33	54	6	40	38	47	3	40	53	7	50	28	8	18	10	27	4
25	52	46	50	10	12	46	26	38	41	47	9	18	56	25	49	31	5	28	47	37	48
26	49	50	53	11	52	38	44	36	45	47	16	57	0	38	48	34	2	38	24	47	30
27	46	53	56	12	31	31	0	34	49	47	22	35	4	47	47	37	59	48	1	57	14
28	44	57	59	13	11	24	14	32	52	47	29	13	8	53	46	40	56	58	38	7	59
29	41	0	2	15	50	17	26	30	56	47	36	51	13	57	45	43	53	8	15	17	45
30	39	4	5	17	30	10	36	28	0	47	42	29	18	0	44	46	50	18	52	27	31
31	36	7	8	19	9	4	43	26	4	47	49	7	23	3							

	October.							November.							December.						
	☉	♅	♄	♃	♂	♀	☿	☉	♅	♄	♃	♂	♀	☿	☉	♅	♄	♃	♂	♀	☿
1	43	49	46	29	29	38	18	33	5	32	36	10	54	50	50	33	15	15	22	1	49
2	43	52	43	40	6	49	5	33	6	28	49	46	7	22	51	33	11	28	55	16	33
3	42	55	39	51	43	59	52	33	8	23	2	21	21	53	52	33	7	42	28	31	10
4	41	58	36	2	20	10	39	34	9	18	15	56	35	24	53	33	3	55	1	46	39
5	40	1	32	13	57	21	25	34	11	13	28	31	49	54	54	33	0	9	34	1	0
6	40	4	28	24	33	32	11	34	12	8	41	6	3	24	55	33	56	22	7	16	13
7	39	7	24	35	9	43	57	35	14	3	54	41	17	54	56	32	53	36	40	31	17
8	38	10	20	46	46	54	42	35	15	58	7	16	31	23	57	32	49	49	13	46	10
9	38	13	16	57	22	6	27	35	16	53	20	51	45	52	58	32	46	3	45	1	51
10	37	16	12	8	59	17	11	36	18	48	33	26	59	20	59	32	43	16	18	16	19
11	37	18	8	20	35	29	55	36	19	43	46	1	13	48	0	31	40	30	50	31	35
12	36	21	4	31	12	40	38	37	20	38	59	36	27	15	2	31	37	43	23	46	42
13	36	23	59	43	48	52	20	37	21	34	13	10	41	41	3	31	34	57	55	1	40
14	35	26	55	55	25	4	1	38	22	29	26	45	55	7	4	30	31	10	27	16	29
15	35	28	51	7	1	16	42	38	23	24	39	19	9	32	5	30	28	24	59	31	12
16	34	31	46	19	37	28	22	39	24	20	53	54	23	57	6	29	25	37	31	46	49
17	34	33	42	31	13	41	2	39	25	15	6	28	37	21	7	28	23	51	2	1	25
18	34	36	38	43	49	53	41	40	26	10	19	3	51	44	8	27	20	4	34	16	3
19	33	38	33	55	25	6	19	41	27	6	33	37	6	6	9	26	18	18	5	31	47
20	33	41	29	7	1	18	57	41	28	1	46	12	20	27	10	25	16	31	36	46	58
21	33	43	24	19	37	31	34	42	29	57	59	46	35	46	12	24	14	44	8	1	37
22	33	45	20	31	13	43	11	43	30	52	13	20	49	4	13	23	12	58	39	16	43
23	33	47	15	43	49	56	47	43	31	48	26	54	4	20	14	22	10	11	10	31	0
24	32	49	10	55	25	8	23	44	31	43	39	28	18	34	15	21	8	24	41	46	29
25	32	51	5	8	1	21	58	45	32	39	53	2	33	46	16	20	6	38	12	2	9
26	32	53	1	20	37	34	33	46	32	35	6	35	47	56	17	18	5	51	43	17	59
27	32	55	56	33	13	47	7	47	32	31	20	9	2	2	19	17	3	4	14	32	59
28	32	57	52	45	49	0	40	47	33	27	33	42	16	5	20	15	2	17	45	47	8
29	32	59	47	58	24	14	13	48	33	23	47	16	31	4	21	14	1	31	15	2	25
30	33	1	42	11	0	27	46	49	33	19	1	49	46	59	22	12	0	44	46	17	49
31	33	3	37	23	35	41	18								23	11	59	57	16	33	20

Chronological Notes for the Year 1793.

The Julian period - -	6506	Septuageſſima Sunday	Jan. 27
Roman Indiction - -	11	Shrove Sunday -	Feb. 10
Solar cycle - - -	10	Eaſter Day - -	March 31
Golden number - -	8	Whit Sunday - -	May 19
Dominical letter -	F	Trinity Sunday -	May 26
Epact - - -	17	Advent Sunday - -	Dec. 1
Number of Direction . -	10	Years of the Milennium	142

Aſtronomical CHARACTERS uſed in this DIARY.

♈ Aries	♍ Virgo	♒ Aquarius	♂ Mars	☊ N. Node
♉ Taurus	♎ Libra	♓ Piſces	♀ Venus	☋ S. Node
♊ Gemini	♏ Scorpio	♅ G. Sidus	☿ Mercury	⊖ Earth
♋ Cancer	♐ Sagitary	♄ Saturn	☉ Sun	⊕ Part.for.
♌ Leo	♑ Capricorn	♃ Jupiter	☽ Moon	

☌ Conjunction, when planets are in the ſame ſign, D. M. &c.
⚹ Sextile, when 2 ſigns diſt. | △ Trine, when 4 ſigns diſt.
□ Quartile, when 3 ſigns diſt. | ☍ Oppoſition, when 6 ſigns diſt.

Of the Four Quarters of the Year.

Spring Qu. b. Mar. 20, 3h. 8′ m. | Autumn Q. b. Sept. 22, 2h. 58′ af.
Summer Q. b. June 21, 1h. 10′ m. | Winter Q. b. Dec. 21, 7h. 29′ m.

ECLIPSES.

IN the courſe of this year, there will happen four eclipſes, two of the ſun, and two of the moon, according to the following order:

I. February 25th, moon eclipſed, and viſible at night, as follows

	h.	′	″		h.	′	″
Beginning at night	9	23	46		9	19	53
Middle - - -	10	45	16	The ſame from	10	43	54
End of the Eclipſe	12	6	31	M. S. tables.	12	7	59
Digits eclipſed -	6°	0	0		6°	8	57

On the moon's north limb.

II. March 12, near 6 in the morning, the ſun is eclipſed inviſible.
III. Auguſt 21, near 3 afternoon, the moon is eclipſed inviſible.
IV. September 5, the ſun is eclipsed viſible in *Great Britain.*

	D.	h.	′	″	
Beginning Sept.	5	9	37	0	morn.
Middle -	0	11	8	43	
End - -	0	0	44	13	aftn.
Digits eclipſed	0	9	28		on ☉ n. limb.

The moon makes the firſt impreſſion on the ſolar diſk of 29° 30′ from the ☉ vertex on the right.

An Exam. for July 1ſt. To find the ☉ and Planets Places.
Look into the calendar, and table of minutes for July 1ſt. and you will find the ☉ in ♋ 9° 58′; ♅ in ♌ 21° 26′; ♄ in ♉ 13° 5′, &c.

Anſwers to the ENIGMAS, REBUSES, CHARADES, &c.

Enigmas.

I. Barley or malt liquor.
II. Leather-bag.
III. Friendſhip.
IV. Letter O.
V. Celibacy or ſingle-life.
VI. or Prize. Line.

Charades.

I. Anthem.
II. Cloth-yard.
III. Game-cock.
IV. Mayor.
V. Sea-mark.
VI. Bank-bill.
VII. Aſhore.

Rebuſes.

I. Southwell.
II. Noon.
III. Nobody.
IV. John Salter.

Anſwers to the PRIZE ENIGMA.

1. *Zema on ſeeing the Portrait of his deceaſed Wife, by Mr. John Fildes, Liverpool.*

Thou faint reſemblance of my once belov'd!
Image of her my ſoul held dear on earth,
And hopes to meet hereafter! The ſight of thee,
To my diſtracted fancy ſtrait recalls,
That fatal hour in which I loſt my Anna!
As on my breaſt, one eve ſhe did rec*line*
Her lovely head, and talk'd with me of love;
Death in one moment ſnatch'd her from my arms,
And I then loſt my peace of mind for ever!
Earth now has got no bleſſing worth my care;
And I through life ſhall mourn my hapleſs fate,
Of miſery's ſons the moſt forlorn and wretched!

2. *By Autodidactus, Laxton.*

Some place their bliſs in pleaſures gay,
And epicurean delights:
Swiftly their moments glide away,
Whilſt they perform their feſtive rites.
Ambition fires the haughty mind;
Proud Cæſar can't an equal bear:
He ſeeks for what he cannot find,
Contentment ne'er inhabits here.
The ſummum bonum of old gripe
Is plac'd in heaps of ſhining ore;
Meanly he feeds on oxen tripe,
And lives a life that's truly poor.

But your Diary *lines* doth lead
To nobler joys, and crowns more bright,
And teaches us in paths to tread,
Which lead to pureſt realms of light.

3. *By Mr. T. Smith, Melton-Mowbray.*

To find out the Prize, which is hid in diſguiſe;
Long time I've exerted my ſkill;
Both early and late, it has puzzled my pate,
And oft exerciſed my *quill*. *Alluding to a line.*
Till chancing to rove, one morn thro' the grove,
Where the feather'd ſongſters were join'd
In harmony ſweet, to form nature compleat;
It ſuddenly came in my mind.

4. *Addreſs to Mr. Fildes, by Thomas Nield.*

A *line* my dear Fildes was the anſwer I ſent,
To the Enigma that you had ſo wittily pen'd;
And if it was right, as it ſeem'd in each caſe,
I beg'd Mr. Printer to give it a place.

5. *Addreſs to the Britiſh Youth, by Mr. Hall.*

Ye Britiſh youth; mark well the truth, in ſcientific *line*,
That you in Di. abſtruſe things try, that you in it may ſhine,
Fair ſcience wrought, with profound thought, requireth no diſguiſe;
Therefore pray mind, the truth to find; that you may win the prize.

6. *By Mr. John Brown, Whittington, near Cheſterfield.*

Go humble *lines* and plead in my defence;
Arm your requeſt with my obedience;
Gain but acceptance, my joy will abound,
To find my anſwer with your liking crown'd.

7. *By Mr. John Cartledge, Cheſterfield.*

" The *lines* are fall'n divinely wiſe,
Our heritage is good indeed;"
Our nobleſt pow'rs then exerciſe,
To praiſe that hand that doth us feed.

8. *By Innocenticus, Cheſterfield.*

Kind Sir if I do right divine,
I think your myſtic theme is *line*.

Anſwers were alſo given by Meſſrs. Atwin, Allwood, Boden, Boſworth, Bower, Braſſar, Brooks, Burgin, Buxton, Carwithen, Cator, Clare, Clark, Eaton, Elms, Enſon, Fletcher, Flint, Fox, Gedling, Greenlees, Hanford, Hunter, Houghton, Haywood, Jaſon, King, Kite, Langley, Laughton, Mathews, Milward, Millington, Maſon, Newton, Peat, Salter, Stevenſon, Savage, Slack, Turton, Tatham, Trueman, Wyld, and Young.

General ANSWERS to the ENIGMAS.

1. *By Mr. Thomas Greenlees, Bookſeller, Rochdale.*

Friendſhip, ſweet cordial of this life, Enig. 3.
That leſſens ev'ry care,
Guide *Anna* thro' this world of ſtrife, Reb. 2.
In chaſtity ſincere.
The *line* of *life* may ſhe purſue, Prize. Enig. 5. ſingle-life.
That will her beſt prepare,
Her actions paſt for to review;
If brought before a *may'r*. Ch. 4.
And when to *Southwell* church ſhe goes, Reb. 1.
May *Salter* meet her there, R. 4.
An *anthem* then to her propoſe; Ch. 1.
For to delight the ear.
Nobody elſe I'd have unite, R. 3.
For that would ill agree,
Their vOices are ſo near alike, E. 4.
A diſcord there would be.
So now their hands let's freely join,
And to the *mark* repair, Ch. 5. a ſea-mark.
In yonder *yard* pray ſee the *ſign*, Ch. 2. cloth-yard.
It's noted for good *beer*. E. 1. barley.
Where we our ſpirits may relieve,
With plenty of good *ſack*; E. 2.
Or good *rum-punch* I do believe, Ch. 3.
Will do as well as that.
Now to conclude the reck'ning call,
We need not to delay,
A good *bank-bill* will pay for all, Ch. 6.
To Greenland let's away.

2. *Arlo*

2. *Arlo and Alma, by J. Fildes, Liverpool.*

Fair Alma was a wealthy nymph,
And liv'd beſide the Dee ;
For beauty, and for innocence,
Few were ſo fam'd as ſhe.
Young Arlo was a ſhepherd ſwain,
Who did near Alma dwell ;
For virtue, truth, and inward worth,
Not one did him excel.
Thoſe tw*O* each other dearly lov'd, 4.
But Alma's haughty ſire;
One far more rich than Arlo was,
For Alma did require.
The gallant youth, when this he found,
Oppreſt with grief and pain,
To India went, in hopes he there,
A fortune ſoon might gain.
He took his leave, and ſtrove to hide
The ſorrows of his heart :
But when poor Alma ſaw him go,
It cut her to the heart.
Alone, quite p*ale*, ſhe walk'd & wept, 1.
Within the rural ſhade,
Where ſhe and Arlo, vows of love,
And *friendſhip*, oft had made. 3.
The youth had but one year been gone,
Before the father died ;
For fleſh is graſs, and death delights
To humble human pride.
The weeping maid put *ſack*cloth on, 2.
And mourn'd her father dead ;
Who ere his death, gave his conſent,
That ſhe ſhould Arlo wed. [Prize.
To whom theſe *line*s ſhe after wrote.
—My father is no more!
And ſoon I hope thou wilt return,
To this thy native ſhore.
Thou needſt not now for riches toil ;
My wealth ſhall all be thine;
I hope thou will not love it leſs,
For having once been mine.—
When Arlo had the letter read,
He homeward quickly came ;
O'erjoy'd to think that he ſo ſoon,
Should wed the lovely dame.
The day he did return, they both
Forſook a *ſingle life*, ; 5.
He now a tender huſband is,
And ſhe a loving wife.

3. *The Toper, by Mr. Tho. Nield, Howarden.*

The Toper's glad in company to be,
With one who loves to ſwig good *ale* like he, 1.
On *friendſhip* ſits, and chats the live long day, 3.
Of *virgin's chaſe*, and tell the pranks they play, 4. 5.
Gives ample ſcoff to all he thinks is true,
Reclaims the ſtate, and heads the madding crew ;
Makes war with France, while thus by faction rent,
And gives them cauſe their folly to repent ;
Seizes their crown, and ſtraight aſcends the throne,
With ſword and fire, makes all the land to groan ;
Draws forth his *line*s, and chalks the table o'er, 6.
And fix the ſhips in order near the ſhore.
Thus acts the toper, while the landlord leers,
Aſſents with nods, and his long ſtory hears,
Till ere anon, the toper's run aſhore ;
His money's ſpent—landlord will truſt no more ;
His *bag*s quite empty, and his land all ſold— 2.
Himſelf now routed, and his ſtory told.

4. *The Diſconſolate Lover, by Mr. Lumas Braſſar, Headſellgates.*

Adieu! to *Southwell*, whither ſhall I roam, 1. R.
Since *Anna*'s falſe, no peace for me remains ; 2. R.

Nobody e'er can ſooth my troubled mind, 3 R.
For rankling diſcord there in triumph reigns.
Anthems alas! tho' by *John Salter* ſung, 1 C. 4 R.
Cannot compoſe my agitated mind;
Bank-notes to me are traſh, mere uſeleſs things, 6 C.
Since Anna's falſe! no comfort can I find.
Juſt as a ſhip toſs'd on the raging main,
Without *ſea-mark* to direct her way; 5 C.
So floats my ſoul on life's tempeſtuous ſea;
Why have I liv'd to *O* ſee this fatal day. 4 E.
Oft have I dreſs'd a may-pole for my fair,
With *ribbons* waving in the fanning breeze; 2 C.
In hopes the prieſt ſhould one day *join our hands*; 3 E.
Officiouſly I did her ſtrive to pleaſe.
Dreſs'd in her *ſack*, how comely was my dear; 2 E.
Her *line* of life how did my ſoul approve; Prize.
A *ſingle life* was irkſome unto me; 5 E.
My hopes concentred in my turtle-dove.
But, now alas! theſe hopes I muſt forego,
For the falſe fair, will not her promiſe keep.
Soon as the *game-cock* uſhers in the morn, 3 C.
I am reſolv'd! to take the lover's leap.

5. *The enlightened African's Soliloquy, by AutodidaƐtus.*

From deareſt *friendſhip* and connexions torn 3.
  I am—to vile Barbarians ſold;
Who treat me with great cruelty and ſcorn,
  All for to fill their *bags* with gold. 2.
My aged parents I no more muſt ſee,
  My brothers, nor my ſiſters dear;
My loving bride they've thrown into the ſea,
  And nought, *O* nought my heart can cheer. 4.
From riſing to the ſetting day, I ſweat,
  And labour more than any beaſt;
Yet no refreſhing *liquors* do I get, 1.
  To ſooth my weary'd limbs to reſt.
But ſee, a pleaſant glimm'ring light appear
  Portentous from the Gallic ſhore;
The cry of liberty, methinks, I hear,
  The reign of ſlavery is o'er.
Thanks to our friends in Gaul and Britain's iſle;
  Who to bleſt freedom pav'd the way:
May *virgin purity* upon them ſmile, 5.
  And heaven largely them repay.

6. *By Mr. Thomas Smith, of Melton-Mowbray.*

Since others *write* for thirſt of fame, Pr. A line.
That they may bays, and laurels claim;
Let me not paſs unheeded by;
Muſe lend thy aid thy efforts try;
Remember too amongſt the reſt,
The ſhorteſt anſwer pleaſeth beſt
So to begin let me not fail,
To anſwer three, *ſack*, *O*, and *ale*,
Ye Britiſh ſons, I would adviſe,
To make *friendſhip* your only prize,
And form your nature in your youth,
To follow *Innocence* and truth.

Many other ingenious anſwers to the Enigmas, were given by Meſſrs. Atwin, Alwood, Boſworth, Boden, Bower, Brown, Clark, Carwithen, Clare, Eaton, Enſon, Fletcher, Flint, Fox, Savage, Stevenſon, Wm. Salter, Tatham, Tompſon, Truman, Turton, White, Waterall, Watkins, Wilſon, and Wyld.

ANSWERS to the REBUSSES and CHARADES.

1. *By Mr. Wm. Salter, Bilſton.*

If I to *Southwell* chance to go,
And there ſhould meet with Swift of Stow,
With charming *Anna* by his ſide;
By Hymen made his loving bride;
The bells a merry peal ſhould ring,
And choriſters an *anthem* ſing;
The ale-caſk too ſhould hollow ſound,
While mirth and muſic ſkip'd around;
No-body ſhould a banquet lack,
The *mayor*, the parſon, or friend *Jack*:
The tars their *ſea-marks* too would ſhun,
And come *aſhore* to ſhare the fun;
Thus would we roll in merriment,
'Till ev'ry *bank-bill* there was ſpent,
Then homeward bend with *meaſur'd* pace,
Like ſportſman from the jovial chaſe,
There to recount how happy we
Were wrapt in bliſsful harmony.

2. *Acroſtic on the —— by Mr. John Fildes.*

Beſide *Southwell* church, in a ſtreet known to fame,
Reſides a fair maid and Miſs *Noon* is her name:
If *nobody* yet has engag'd her for life,
They ſay learn'd *John Salter* does wiſh her his wife.
In ſinging of *anthems*, her ſkill is well known;
She has both a ſhop and a *cloth-yard* her own.
He briſk as a *game-cock*, ere long means to ride,
Dreſt like a new *mayor*, to make her his bride.
I think he a *ſea-mark* again will not paſs,
As he has both caſh and *bank-bills* for the laſs:
Remaining *aſhore*, though he ſomething may lack,
You'll find in his cellar a *caſk* of good *ſack*. Anagram.

3. *By Mr. Thomas Fox, Norton.*

Fair *Anna* dwells in Southwell town,
Nobody can deny;
John Salter is of great renown,
When Swift of Stow's not by.
In ſinging of an *anthem* grave,
No *game-cock* is more clear;
A *cloth-yard* meaſures ev'ry ſtave,
As witneſs my lord *mayor*.
To ſpur him on to greater fame,
Join him in wedlocks band,
With good *bank-bills* and lovely dame,
He'll like a *ſea-mark* ſtand.

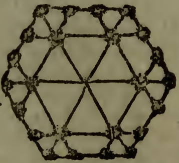
We are truly ſorry that room will not admit of the very ingenious anſwers by Meſſrs. Autodidactus, Brown, Buxton, Innocentious, Nield, Savage, Stevenſon, and others.

Paradox, anſwered by Mr. T. Smith.

The trees you ſee in order planted;
I hope this is the plan you wanted.

ALSO,

Anſwers were given by Meſſrs. Buxton, Ferdinando, and Savage.



Answers to the Queries.

1. *Anſwered by Mr. James Aſhton, of Harrington, near Liverpool.*

King Richard the Second, came to the crown of England, in the year 1377; and in the year 1397, the Engliſh ladies began to wear high head-dreſſes, with long train gowns, and to ride on ſide-ſaddles, after the example of the princeſs Ann, of Bohemia, Richard's firſt wife, who brought that faſhion into this country; before which time the ladies uſed to ride aſtride their horſes, like men. *See Raymond's Hiſtory of England.*

Anſwers were alſo given by Meſſrs. Braſſer, Fildes, Innocentious, and Smith.

2. *Anſwered by Collis Etoceto.*

This alludes to the promiſed Meſſiah, whom they could not receive, but through faith; yet, as they thereby obtained a good report, the heavenly Canaan would be their perpetual inheritance.

Meſſrs. Áſhton, Cartledge, Carwithen, and Smith, alſo gave anſwers.

3. *By Collis Etoceto.*

By an humble walk before him, is our Father glorified; and that we bear much fruit. Mic. vi. 8. John xv. 8.

It is not very differently anſwered by Meſſrs. Autodidactus, Savage, and Vergilius. But Mr. John Carwithen ſays, it is impoſſible for the creature to bring any glory unto the Creator, who is himſelf all power and glory.

4. *By Mr. John Cartledge, of Cheſterfield.*

Let the falſe ſwearer have recourſe to the ninth Commandment, to know the conſequence of a falſe oath, and in order that he may know the conſequence of breaking a commandment, let him read the 27 ch. of Deut. which alſo refers to Gal. iii. 10.

Like anſwers are given by Meſſrs. Autodidactus, Barns, and Johnſon. Mr. Carwithen ſays, a falſe oath is death eternal. Virgilius alſo anſwered it.

NEW ENIGMAS.

I. ENIGMA (53) *By John Savage, of Coventry.*

'Tis I that keep the thief in jail,
Or I that ſet him free;
Were't not for me how oft he'd ſteal,
You ſeldom ſafe would be;
Reverſe my name, you then may ſee
On me the verdant graſs;
The waving corn behold on me,
O'er me you often paſs.

II. ENIGMA (54) *By Mr. William Swift, of Stow.*

Both male and female me befriend,
For I'm of greater pow'r than love;
Tho' earthly born, I earth tranſcend,
For I'm a bleſſing from above.
Ye fair with me receive and bleſs,
The ſureſt pledge of all ſucceſs;
Deſir'd by all, us'd right by few;—
Dian'ans all, I'm wiſh'd by you.

III. ENIGMA (55) *By Mr. T. Greenlees, Bookſeller, Rochdale.*

Ye Britiſh bards who're fam'd ſo wiſe,
Pray turn you round and caſt your eyes;
Where ſadneſs reigns and dire diſtreſs,
And ghaſtly looks poor ſouls oppreſs:
There I frequent moſtly you'll find,
Sad to relate ſome thouſands bind;
Whoſe guilty hands have broke the laws,
And thouſands more without a cauſe.
But juſtice now *Britain* pervades,
And drives away ſuch dirty knaves,
As wou'd the rights of man invade,
In carrying on a curſed trade;
Wherein they have recourſe to me,
In binding down to ſlavery,
Poor Afric's ſons moſt cruelly!
As to my ſhape its multifarious,—
Produ'd by Vulcan's moſt myſterious,
Thoughts of working things ſo various.
I'm often hung by ſquares and rings,
An ornament moſt meet for kings:
But not confin'd to them alone,
Sometimes I grace the fop and clown;
Below their waſte in wreathes of gold;
And ſilver too as I've been told.
Sometimes nine inches long or more,
Perhaps you'll ſay to half a ſcore:
But not contented ſtill with this,
Coxcombs have ſomething yet amiſs;
A uſeleſs knob at th' end or more,
Muſt reach below the half a ſcore;
To ſhew that they are men of parts,
When they attempt fair ladies hearts;
And wou'd them captivate with puff;
But modeſt dames mind no ſuch ſtuff:
They value moſt the man ſincere,
So pray adieu 'till the next year.

IV. ENIGMA (56) *By Mr. Wm. Salter, jun. of Bilſton.*

Tho' fam'd hiſtor'ans ſay in ancient times,
That men were prais'd for perpetrating crimes,
Of blackeſt die, and in their annals tell,
Great heroes deeds, and how they bravely fell;
Tho' caverns they explore, huge rocks deſcry,
Which erſt were hid from mortals prying eye;

Tho' e'er ſo far their per'grinations been,
Or e'er ſo ſtrange the wonders they have ſeen:
In my excurſions I am not behind,
To know one country I at all confin'd;
In Greenland where cold winter potent reigns,
In eaſtern climes, on Aſia's burning plains,
In ev'ry part of this terraq'ous round,
Where mortals dwell there I'm moſt ſurely found.
In ſev'ral parts a courtly train I wear,
Kings, lords, and pleb'ans in my ſuit appear.
If, to Vauxhall you chance to make a tow'r,
T'amuſe yourſelves, and ſpend a leiſure hour,
There I attend to pleaſe each welcome gueſt,
And animate the paſſions of the breaſt;
In comic, tragic, love-ſick, clowniſh parts,
Equal alike to me are all thoſe arts,
With what an eclat then I grace the ſtage,
And your attention with delight engage.
When Hawk-, or Ruſſell, on old Neptune's bed,
Their rapid courſers to the carnage led,
Darting deſtruction, fell deſpair and woe,
With horrid clanger on the trembling foe;
I lay not dormant, but the victors bore,
And ſpread their deeds o'er all the Britiſh ſhore.
When in the grove or ſad ſequeſter'd vale,
Where fanning zephyrs breathe a gentle gale,
Unhappy Strephon languiſhing complains;
I ſpeak his woes in melancholy ſtrains;
Or if perchance to take the evening air,
The happy lover leads his charming fair,
Where birds in concert ſweeteſt notes prepare;
In me his am'rous flame conveyance find,
In dulcet numbers on each guſt of wind;
From hence ye riddling wits well known to fame,
Unto th' enquiring world explore my name.

V. ENIGMA (57) *By Autodidactus.*

Be cautious, O ye charming fair,
When in my preſence you appear,
Leſt that my ſmiles ſhould pierce your heart,
And leave therein a venom'd dart,
Which time alone, can never cure,
Nor greateſt fortitude endure.
In youth and beauty I abound;
My charms do ſeldom fail to wound;
Lovely my countenance and mein;
My cloathing white, and red, and green;

All hues which captivate the eye,
And fineſt lawns and ſilks outvie.
Like to ſome noble king, I'm crown'd,
And welcom'd in by dulcet ſound;
With lofty poles they me befriend,
And youth and beauty me attend;
The nymphs and ſwains around do play,
To hail my firſt, my native day.
In my preſence, how many ſigh,
And pant, and breathe their reaſons why,
Who are at other times moſt coy.
Tell what I am ye lovely fair,
And of my dang'rous ſpells beware.

VI. Enigma (58) *By Mr. J. Carwithen, of the Navy, Plymouth.*

Attend me at the levees of the great,
Where I am clad with ſplendid robes of ſtate;
I take th' chair when man's rights are debated;
All profound arguments by me are ſtated.
I was th' apple on the tree of knowledge;
Now reign predominant at court and college.
I lead the wiſeſt prince on earth aſtray,
And do conduct the helm by land and ſea.
All airy fancy from me daily ſpring,
The thief I aid, and unto ſorrow bring.
I regulate the inſtrumental lyre,
And fill the raptur'd ſaint with falſe deſire.
I courted am by prelate, knave, and cowl,
Where I'm not maſter, man is deem'd a fool;
Yet where I rule, there's no true happineſs;
Tho' all in ſome degree, my power poſſeſs;
Where I am maſter nothing's perfect wrought,
Without my aid, no art, nor ſcience taught.
To bring my name more clear unto your view,
Look upon th' breaſt-plate of a rabbi jew.

VII. Enigma (59) *By Mr. Thomas Nield, of Howarden.*

My ſtation's fixt, and marked out the ground,
And gazing multitudes are ſtanding round;
When lo! I come, their loud exulting joy
Breaks thro' the clouds, and echoes in the ſky;
Tho' I no whit elated by their joy,
With angry look, and haughty air move by;
While each in kind ſubmiſſion to my grace,
Move to the right and left, and give me place;

Tho' honor'd thus, by high and low degree,
Pain long from pleaſure, ſeldom e'er is free;
Juſt ſo with me, for in that num'rous throng,
A potent enemy, both ſtout, and ſtrong,
Seizes my perſon, and ſhakes me till I cry,
E'en to the pity of ſome ſtanders by:
Foul deed! and barbarous! unpolitely too
Attack a friend who ne'er to him was foe;
Now from him free, let him my fury ſhare---
The ingrate flies! and cuts the liquid air;
The laughing multitude, by nature's laws,
Extols the feat, and gives me loud applauſe;
But lo! again, one of the ſelf-ſame kind,
Of a more rude, and an ungrateful mind,
Attacks me ſtraight, e'er I my honours know,
Or thought of means, to ward againſt the blow;
I bow'd my head, with rev'rence to the ground;
And heard loud laughs, diſſipating round;
Not to my honour this, but to my ſhame,
Which did my very ſoul with rage inflame;
Now rous'd to fury, by that mean foul deed,
I on my enemy, ruſh'd in full ſpeed:
There dead he lies, by reſentment ſlain;
Loud ſounds applauſe---my honour I regain;
From bounds ſet free, now ſeek the peaceful plain.

VIII. Or, PRIZE ENIGMA (60) *By Mr. J. Fildes, of Liverpool.*

Diarians you perhaps will think me rude,
If in your company I here intrude
Without apology; and if 'tis ſo,
I that regard not, but muſt let you know;
That in whatever place I wiſh to be,
No one, except myſelf, can hinder me.
When Eve in Eden did with Adam dwell,
E'er from the ſtate of innocence ſhe fell;
I was not known: but when the ſons of men
Began to live diſhoneſtly, I then
Was needful found, and always ſhall be ſo,
While ſinful mortals live on earth below.
Mankind all own I uſeful am, yet ſtill
They do avoid me, and for ever will.
If in my preſence wicked men appear,
I quickly ſtrike their guilty hearts with fear.
When dull you hate me, love me when I'm bright,
And you may find me in a barn at night.

To meaſure time, erect I always ſtand;
And to and fro I move at your command.
I'm moſtly near you, ſometimes guard you too,
But to your projects never can be true;
For in whatever ſcheme I act a part,
I nought but plague and trouble can impart:
When things go right, I then am never known;
If they go wrong, the fault is all my own.
When e'er you ſee a barrel of good ale,
To guard one end I'm never known to fail.
I take my ſtation near the kitchen fire,
And you may ſit in me if you require.
Within the priſon's ſolitary gloom,
To be confin'd alas, is oft my doom.
In winter ſad and grievous is my lot,
For I ere ſpring do oftentimes get ſhot:
And ev'ry cheerful ſportſman knows full well,
That I near fields and lanes delight to dwell.
I am no ſtranger to the ways of man;
And oft to ſtop him I do all I can.
Enough I've ſaid: --from diſappointment free,
Long may you live, and never meet with me.

New Rebuses, Charades, and Queries,

1. Rebus, *By Mr. German Buxton, of London.*

To a chriſtian male-name, be pleas'd to add
One-ſeventh of a month; from whence will be had
Th' name of a country, in which 'tis maintain'd
Th' Engliſh o'er th' French many vict'ries obtain'd.

2. Rebus, *By Innocenticus, of Cheſterfield.*

To four-ſixths of a bird, add the reverſe to new,
And what God never made, will appear to your view.

3. Rebus, *By Mr. T. Smith, of Melton Mowbray.*

Say for what cauſe, I humbly you deſire,
Or what's the reaſon we to bed retire;
Then ſay what ev'ry man in his ſtation
Is call'd upon to mind, throughout th' nation:

Three-eighths of this, to half the firſt when join'd,
A true ſolution you will ſurely find;
Of what dear ſirs, you may ſoon diſcover;
'Tis not far off when you theſe lines look over.

4. REBUS. *By Mr. J. Fildes, Schoolmaſter, in Liverpool.*

Two-fifths of a dreſs that of linen we make,
Two-fifths of a thing ſometimes call'd a miſtake,
One-third of what moſt people uſe when they write
Two-thirds of a day, and one fifth of a night:
A poet will make, in whoſe verſes we find,
Sublimeneſs of thought, and a taſte quite refin'd.

1. CHARADE, *By Mr. William Travis, of Shaw.*

My firſt, in hatters ſhops they uſe,
To ſhape a thing, to fit my ſecond;
If this charade does you confuſe,
You may with truth my whole be reckon'd.

2. CHARADE, *By Mr. German Buxton, London.*

My firſt is a ſlave and a drudge to mankind,
My next on yourſelf you may eaſily find;
When e'er the muſician is aſked a glee,
He has recourſe to my whole, that is, to me.

3. CHARADE, *By Mr. P. Hall, Denby.*

My firſt's where innocent oft lie;
Sometimes thro' th' air my next doth fly:
My whole is of the winged tribe;
And on Terra, moſtly abide.

4. CHARADE, *By Innocenticus.*

For my firſt ſailors often ſigh
My next is where dead bodies lie;
My whole's a title in Germany.

1. QUERY, *By Mr. Lumas Braſſar.*

The 2 Samuel chap. vi. ver. 7. And the anger of the Lord was kindled againſt Uzzah, and God ſmote him there for his error, &c. As Uzzah's intention in putting forth his hand ſeems to have been good; why did the Lord ſmite him?

2. QUERY, *By Mr. Thomas Greenlees, Rochdale.*

It is aſſerted, by Ebenezer Sibly, in his Dedication of Aſtrology, to the Free Maſons, lately publiſhed (and which he ſays is a part of their official contemplation) that the Free Maſon's Society is the moſt noble inſtitution in the world. The ſame is alſo aſſerted by ſeveral other maſonic publiſhers. Query, The truth of this aſſertion ?

3. QUERY, *By Mr. John Brown, of Whittington.*

A man was born in the year 1755, Jan. 14, at 8h. 12m. afternoon, in latitude 53° 8′; what time of his age will the horoſcope come to the ſquare of Mars; and likewiſe to the body of part of fortune? He will be greatly obliged to any Diarian for a ſolution.

A PARADOX, *By John Savage, of Coventry.*

'Midſt fields of blooming flow'rs I may be found ;
Five letters fully will my name expound,
From which take one, you certainly will find,
That only two there will be left behind :
Fam'd artiſts, what I've here propos'd is true,
And hope next year 'twill be reſolv'd by you.

The prizes for the ſolutions have been determined by lot as follows: For the prize-queſtion, to Virtuoſo 12 *Diaries.* 2*d. For the prize-enigma, to Mr. Carwithen.* 3*d. For the general anſwer to the enigmas, to Mr. Allwood, and Mr. Fletcher,* 6 *Diaries each.* 4*th. For the general anſwer to the rebuſes, charades, &c. to Mr. Clark. All of whom will pleaſe to ſend for them to* Mr. PEARSON, Printer, in Birmingham.

All Letters for the uſe of this Diary, are deſired to be directed thus: For, Cotes and Taylor, to be left with Mr. Joſeph Peet, High-pavement, Nottingham *(poſt paid) to come to hand before the firſt of May.*

ANSWERS

ANSWERS to the MATHEMATICAL QUESTIONS.

I. QUESTION (63) *anſwered by Mr. Joſeph Woollin, Smalley, Derbyſhire, late pupil to Mr. P. Hall.*

The given equation ſhould have been $450 = 2\sqrt{x^3 - x^2 + 35x + 35} + x^2 + x$; whence by tranſpoſition and involution, $x^4 - 2x^3 - 895x^2 - 1040x = -202640$, ſolved $x = 17$ her age.

Mr. Wm. Swift, the propoſer, alſo anſwered it.

II. QUESTION (64) *anſwered by Mr. Wm. Travis, Shaw, near Rochdale, Lancaſhire.*

Multiplying the ſecond given equation by 3, it becomes $x^3 - y^3 - 1331 = 3x^2y - 3xy^2$, by tranſpoſition $x^3 - 3x^2y + 3xy^2 - y^3 = 1331$, the cube root of this laſt equation is $x - y = 11$: by tranſpoſition, the firſt given equation becomes $x^2 - y^2 = 671$; then, $\frac{x^2 - y^2}{x - y} = \frac{671}{11} = x + y = 61$, and $x + y$ added to $x - y = 2x = 72$; whence $x = 36$, and $y = 25$.

The ſame by Mr. Richard Elliott, of Liverpool.

Multiply the laſt given equation by 3, and $x^3 - y^3 - 1331 = 3xy \times \overline{x - y}$; divide by $x - y$; then $x^2 + xy + y^2 - \frac{1331}{x - y} = 3xy$, or $x^2 - 2xy + y^2 = \frac{1331}{x - y}$ by tranſpoſition, or $\overline{x - y}|^3 = 1331$, and $x - y = \overline{1331}|^{\frac{1}{3}} = 11$, and $x = 11 + y$, which ſubſtituted for x in the firſt equation, we have $121 + 22y + y^2 - 671 = y^2$; hence $y = \frac{550}{22} = 25$, and $x = 11 + y = 36$.

The ſame by Mr. Thomas Booth, of Newark.

Firſt $x^2 - y^2 = 671$, $x^3 - y^3 - 1331 = 3x^2y - 3xy^2$, by tranſpoſing and extracting the cube root of the laſt equation we get $x - y = 11$, this made deviſor to the firſt, gives $x + y = 61$; hence $x = 36$, and $y = 25$.

Solutions to this queſtion were alſo given by Meſſrs. Aſhton, Alwood, Boden, Bower, Brooks, Buxton, Clark, Eaton, Fletcher, Flint, Greenlees, Haywood, Houghton, Hulland, Laughton, Marſden, Millington, Robert Nicholſon, Virgilius, Whiting, Woollin, and Youart. Mr. Samuel Beaſtall alſo anſwered it.

III. QUESTION (65) *by Mr. John Brooks, Leeds.*

Take $x =$ the length and $y =$ the breadth, then per queſtion $x + y = 880$, and $xy = 9680$: now if 4 times the laſt equation be taken from the ſquare of the firſt, we obtain $x^2 - 2xy + y^2 = 735680$; whoſe root is $x - y = 857.7179$; hence $x = 868.85195$, and $y = 11.14105$.

The ſame by Wm. Vorley, Wellingborough.

In looking over the mathematical queſtions in your repoſitory, I obſerve the third and fourth may be anſwered by the following general rule, for every right angled triangle (that is) If four times the area be taken from the ſquare of the ſum of the baſe and perpendicular, the remainder will be the ſquare of the hypothenuſe : and eight times the area from the ſame will leave the ſquare of the difference of thoſe ſides : and again, if the ſaid ſquare (of the ſum of the two legs) be taken from twice the ſquare of the hypothenuſe, this remainder will be the ſquare of the difference of thoſe legs. *Solution.*

If the long ſquare be divided into two triangles, by a diagonal, their dimenſions will be each one acre, or 160 poles, the ſum of the other two legs in each = half a mile = 160 poles, then by the above, $\overline{160 \times 160} = 2560 - \overline{160 \times 8} = 1280 = 24320$ the ſquare of their difference, which root, added to the total, and divided by 2, gives 157.974354 the length, and 2.025645 the breadth.

Anſwers were given by Meſſrs. Alwood, Aſhton, Beaſtall, Booth, Bower, Clark, Wm. Eaton, junior, Fletcher, Greenlees, Haywood, Hulland, Marſden, Millington, Robert Nicholſon, Smith, Stevenſon, Travis, Whiting, and Youart.

IV. QUESTION (66) *by Mr. Samuel Beaſtall.*

The ſum of the ſides of the parallelogram is a ſufficient data for anſwering this queſtion. Therefore rejecting the diagonal, we have $42 \times 4 + 50.2656$ (the area of a circle whoſe radius is 4 yards, and magnitude equal to the four quadrants at the corners) = 218.2656 yards, the content of the walk required.

The ſame anſwered by Mr. Joſ. Woollin.

As the walk is to be 4 yards broad all round, its area will be $42 \times 4 + 8^2 \times .7854 = 218.2656$ yards. W. W. R.

Mr. James Aſhton alſo anſwered it. Others received were not right.

V. QUESTION (67) *by Mr. John Youart, of Glazedale, near Whitby, Yorkſhire.*

It is evident by the queſtion that the areas of the two rectangles will be 6 and 8, for the difference of no other cubes will be 296.

Now let x and y, be the length and breadth of the greater, and a and b, length and breadth of the leſſer rectangle; then $x^2 = 20 - y^2$, and $a^2 = 20 - b^2$; alſo $x = \frac{8}{y}$, and $a = \frac{6}{b}$, put this value of a, in the foregoing equation, we get $\frac{36}{b^2} = 20 - b^2$, or $36 = 20b^2 - b^4$, reduced $b = \sqrt{18}$, or $\sqrt{2}$; hence the length $= 4.242$, and breadth 1.414; ſince the area of each equally exceeds the ſquare of the end, it will be $ab - b^2 = xy - y^2$, or $xy - y^2 = 4$; put $\frac{8}{y}$ for x, we get $y = 2$ the breadth, and $x = 4$ the length of the other rectangle.

The ſame by Mr. Wm. Eaton, jun. Sutton o'th Hill.

It is clear from the nature of the queſtion, that neither ſide is ſo much as the $\sqrt{20}$: if we take the area of one of the rectangles 8 the other is $\sqrt[3]{8^3 - 296} = 6$.

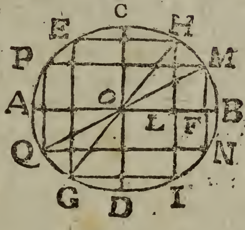
Put $x =$ the ſide of one of the rectangles, then will $\sqrt{20 - x^2} =$ its end, and $\sqrt{20 - x^2} \times x = 8$; therefore $\overline{20 - x^2} \times x^2 = 64$; whence $x = 4$ the ſide, and $\sqrt{20 - x^2} = 2$ the end. Again put $y =$ the ſide of the other rectangle, then will $\sqrt{20 - y^2} =$ its end, and $\sqrt{20 - y^2} \times y = 6$; whence $y = 4.242$, and $\sqrt{20 - y^2} = 1.414$ the length and breadth of the rectangle.

The ſame by Mr. Joſeph Waters, the propoſer.

Put the ſquare of the common diagonal $= 20 = a$, $296 = b$, and the exceſs of each area above the ſquare of its end $= n$, a quantity to be determined; then if x and y repreſent the greater and leſſer ſides of the greateſt rectangle, we have $x^2 + y^2 = a$, and $xy - y^2 = n$, whoſe ſum $xy + x^2 = a + n$, and the product of the two laſt equations, taken from their ſum multiplied by xy, leaves $2x^2y^2 = axy + 2nxy - an - n^2$, which by tranſpoſition and diviſion is reduced to the quadratic $x^2y^2 - \overline{\frac{a}{2} + n} \times xy = -\frac{an + n^2}{2}$, in which if p be wrote for $an + n^2$, we have the coefficient $\frac{a}{2} + n = \sqrt{\frac{a^2}{4} + p}$, and the area $xy = \frac{\sqrt{\frac{a^2}{4}+p} \pm \sqrt{\frac{a^2}{4}-p}}{2}$. Again if w and z, be ſuppoſed the greater and leſſer ſides of the leaſt rectangle we have by the queſt. $wz + z^2 = a$, and $wz - z^2 = n$, whoſe ſum $wz + w^2 = a + n$, and the product of theſe two laſt equations, taken from their ſum multiplied by wz, leaves $2w^2z^2 = awz + 2nwz - an - n^2$, which after reduction and ſubſtitution as before, becomes $wz = \frac{\sqrt{\frac{a^2}{4}+p} \pm \sqrt{\frac{a^2}{4}-p}}{2}$, from which it is evident, the only caſe of the difference of thoſe two areas is when the greater $xy = \frac{\sqrt{\frac{a^2}{4}+p} + \sqrt{\frac{a^2}{4}-p}}{2}$, and leſſer $wz = \frac{\sqrt{\frac{a^2}{4}+p} - \sqrt{\frac{a^2}{4}-p}}{2}$, from which we have $xy - wz = \sqrt{\frac{a^2}{4}-p}$, $x^2y^2 + w^2z^2 = \frac{a^2}{4}$, and $xywz = \frac{p}{12}$; the ſum of the two latter multiplied by the former gives $x^3y^3 - w^3z^3 = \overline{\frac{a^2}{4}+\frac{p}{2}} \times \sqrt{\frac{a^2}{4}-p} = b$, which cleared of ſurd quantities, and tranſpoſed, becomes $p^3 + \frac{3a^2p^2}{4} = \frac{a^6}{16} - 4b^2$, from which p is determined $=9\ 6$, and $n = \sqrt{\frac{a^2}{4}+p} - \frac{a}{2} = 4$, and after tranſpoſing the former equations, and ſubſtituting for n, and the two areas their reſpective values in terms of a, and p, we have $x = \sqrt{a + n - xy} = \sqrt{\frac{a + \sqrt{\frac{a^2}{4}+p} - \sqrt{\frac{a^2}{4}-p}}{2}}$, $y = \sqrt{xy - n} = \sqrt{\frac{a - \sqrt{\frac{a^2}{4}+p} + \sqrt{\frac{a^2}{4}-p}}{2}}$, $w = \sqrt{a + n - wz} = \sqrt{\frac{a + \sqrt{\frac{a^2}{4}+p} + \sqrt{\frac{a^2}{4}-p}}{2}}$, and $z = \sqrt{wz - n} = \sqrt{\frac{a - \sqrt{\frac{a^2}{4}+p} - \sqrt{\frac{a^2}{4}-p}}{2}}$. Hence the greater rectangle is 4 by 2 $= 8$, and the leſſer $\sqrt{18}$ by $\sqrt{2} = 6$.

Meſſrs. Aſhton, Brooks, Hulland, and Rob. Nicholſon, alſo gave true anſwers.

VI. QUESTION (68) *by Mr. John Brooks, Leeds.*



Let A D B C be the generating ellipſe, Q N M P the inſcribed parallelogram and G I H E a ſection of the inſcribed cube; and put A B = x, C D = y, 7077.888 = a^3, and 790528 = b; then by the known property of the ellipſe $x : y :: y : \frac{y^2}{x}$ = M N the latus rectum: alſo $x : \frac{y^2}{x} :: \overline{\frac{1}{2}x+\frac{1}{2}a}\times\overline{\frac{1}{2}x-\frac{1}{2}a} : \frac{\overline{x^2-a^2}\times y^2}{4x^2} = \frac{a^2}{4}$; or, $x^2y^2-a^2y^2=a^2x^2$. Moreover Q N = x^2-y^2; and therefore M Q = $x^2-y^2+\frac{y^4}{x^2}$; hence $x^4-x^2y^2+y^4=b$. Now put $x^2+y^2=m$, and $x^2y^2=n$; then the above found equations become $a^2m=n$, and $m^2-3n=b$; therefore $m^2-3am=b$; hence $m=\frac{3a+\sqrt{4b+9a^2}}{2}=s$, and $2\sqrt{n}=2\sqrt{\frac{3a^3+a^2\sqrt{4b+0a^2}}{2}}=r$. Now $x^2+2xy+y^2=s+r$, and $x^2-2xy+y^2=s-r$; therefore $x=\frac{\sqrt{s+r}+\sqrt{s-r}}{2}$, and $y=\frac{\sqrt{s+r}-\sqrt{s-r}}{2}$; which is a general ſolution to the problem when the numbers are conſiſtently propoſed; but that is not the caſe here, for $\sqrt{s-r}$ is a negative quantity; conſequently, no ſolution in this caſe can be given.

The ſame by Mr. Wm. Hulland, the propoſer.

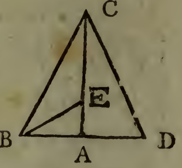
Put $a=\frac{790528}{16}=49408$ = O H² × O B², $b=\frac{\sqrt[3]{7077.888}}{2}=9.6$ = O F = F M, x = O B, and y = O C; then $\frac{y^2}{x}$ = L H = half the parameter, and x^2-y^2 = O L²; (*ſee the preceding figure*) alſo $x^2-y^2+\frac{y^4}{x^2}$ = O H² = $\frac{a}{x^2}$, or $x^4-x^2y^2+y^4=a$; and by the nature of the ellipſis $x^2 : y^2 :: x^2-b^2 : \frac{x^2y^2-b^2y^2}{x^2}$; therefore $\frac{x^2y^2-b^2y^2}{x^2}=b^2$; (per queſt.) alſo

$x^2y^2 = b^2 \times \overline{x^2+y^2}$, and $3x^2y^2 = 3b^2 \times \overline{x^2+y^2}$; ſubſtitute this in the firſt equation, $\overline{x^2+y^2}|^2 - 3b^2 \times \overline{x^2+y^2} = a$, and $x^2 + y^2 = \sqrt{a+\frac{9b^4}{4}} + \frac{3b^2}{2} = c$, $xy = \sqrt{b^2c}$, $x + y = \sqrt{c+2\sqrt{b^2c}}$, and $x - y = \sqrt{c-2\sqrt{b^2c}}$; hence $2x = 32$, $2y = 24$, and the required ſolidity 9650.9952 inches.

Mr. James Aſhton alſo anſwered it.

VII. QUESTION (69) *by Mr. Tim. Simpſon, of Papplewick, near Nottingham.*

Put $a = 3.1416$, $b = 16\frac{1}{12}$, $c = 240$ feet the ſolidity of the cone, $x =$ A C the ⊥ altitude, and $y =$ A B the radius of the baſe; then will the center of gravity E, be diſtant from A. $\frac{3}{4}$; hence the plain B E $= \sqrt{\frac{x^2}{16}+y^2}$, and the ſlant alt. B C $= \sqrt{x^2+y^2}$.



By mechanics, $\sqrt{b} : 1'' :: \sqrt{x} : \sqrt{\frac{x}{b}}$ (the time in which a body would deſcend through A C) :: $\sqrt{\frac{x}{4}} : \sqrt{\frac{x}{4b}}$ (the time in which a body would deſcend through A E) alſo A E : B E :: $\sqrt{\frac{x}{4b}+\frac{4y^2}{bx}}$ (the time in which a body would deſcend down the plain E B) and A C : B C :: $\sqrt{\frac{x}{b}} : \sqrt{\frac{y^2}{bx}+\frac{x}{b}}$ (the time in which a body would deſcend through the ſlant alt. B C). By the queſtion $\sqrt{\frac{x}{4b}+\frac{4y^2}{bx}} = \sqrt{\frac{y^2}{bx}+\frac{x}{b}}$ and $axy^2 = 3c$; hence by equating the values of x from the two laſt equations $2y = \frac{3c}{ay^2}$, hence $y = \sqrt[3]{\frac{3c}{2a}} = 4.8572$; therefore $x = 2\sqrt{\frac{3c}{2a}} = 9.7144$.

Cor. It appears that one body will deſcend freely down the ſlant ſide, in the ſame time as another will deſcend down a right line, drawn from the center of gravity to the circumference of the baſe; when the diameter of the baſe is equal to the perpendicular altitude.

Meſſrs. Aſhton, Booth, Brooks, Wm. Eaton, jun. Hulland, and Whiting, alſo gave anſwers. We are truly ſorry that our narrow limits will not admit of Mr. Richard Elliott's geometrical ſolution.

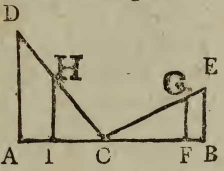
VIII. QUESTION (70) *by —, the propoſer, Philalethes, Claſbyenſis.*

$100 : 100\frac{3}{20}\left(\frac{2003}{20}\right) :: 2000\times 91\,d : 182273$ Q's coſt of 2000 crowns ſent R to Paris, & $100 : 99\frac{2}{3}\left(\frac{299}{3}\right) :: 2000\times 93\,d : 185380\,d$ R's remittance ſent Q, whoſe difference is $3107\,d =$ Q's 2 months gain, and 6 times which is $18642\,d =$ his year's gain at that rate; therefore $182273\,d : 18642\,d :: 100 : \frac{1864200}{182273} = 10\frac{41470}{182273} =$ Q's gain per cent. per annum, the ſame as given by Clare.

Note. There are two errors in the Diary anſwer to this queſt. (1790) the firſt is Q's 3 crowns or 273 *d* he paid brokerage is not accounted for, and the ſecond error, R remits Q only 1997 crowns inſtead of 2000. Theſe errors counteract each other, makes the anſwer near right.

Solutions to this queſtion were alſo given by Meſſrs. Aſhton, Brooks, Ferdinando, Hulland, Stevenſon, and Virgilious.

IX. QUESTION (71) *by Mr. James Aſhton, Harrington.*



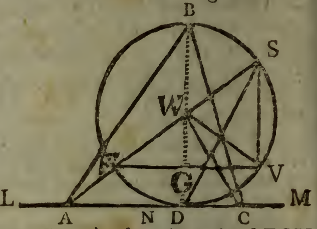
Put $a = AC = CB = 50$, $x = BE$ the height of the lower houſe; then $\sqrt{a^2+x^2} =$ the ſhorter ladder CE; and $\sqrt{a^2+x^2} : 1 :: x : \frac{x}{\sqrt{a^2+x^2}} =$ ſine $\angle BCE$, and $\frac{x}{a} =$ its tangent; then, per queſt. $2 : 3 :: \frac{x}{\sqrt{a^2+x^2}} : \frac{3x}{2\sqrt{a^2+x^2}} =$ ſine $\angle ACD$, and $\frac{\sqrt{4a^2-5x^2}}{2\sqrt{a^2+x^2}} =$ its coſine: but cos : ſine :: rad. : tangent; therefore tangent $\angle ACD = \frac{3x}{\sqrt{4a^2-5x^2}}$; then $7 : 4 :: \frac{3x}{\sqrt{4a^2-5x^2}} : \frac{x}{a}$; therefore $\frac{12}{\sqrt{4a^2-5x^2}} = \frac{7}{a}$; whence $x = \sqrt{\frac{52}{245}} = 23.023 =$ height of the houſe B. Now $\frac{x\times 7}{a\times 4}\times 50 = 40.29$ feet, $=$ the height of the houſe A, then $\sqrt{a^2+x^2} = 55.046$ feet $=$ the ladder CE, the ladder $CD = 64.213$ feet.

Anſwers were alſo given by Meſſrs. Robert Nicholſon, Booth, Brooks, Eaton, jun. Elliott, Greenlees, Hornby, the propoſer, Huliand, Travis, Virgilious, and Whiting. Mr. Hall alſo anſwered it.

X. QUESTION (72) *to no purpoſe.*

XI. QUESTION (73) *by Mr. Patrick Hall, of Denby.*

Conſtruction. Draw the indefinite line LM, on which erect the perp. BD, and equal the given $\perp$; biſect it in W, and from the center W, with the radius WB, deſcribe the circle BFV; make the $\angle$ WDS = half the given virtical $\angle$; through the center W draw SWA, cutting LM in A; make the $\angle$ AWC = the other given $\angle$ draw WC meeting LM in C; join AB and BC, then will ABC be the $\triangle$ required.



Demon. Make the $\angle$ DSV = $\angle$ WSD, draw SV, and join FV, then it is evident the $\angle$ WDS = $\angle$ WSD (*Euc.* 5.1.) and $\angle$ FSD = $\angle$ DSV (by conſtruction); therefore the $\angle$ FSV equal the given virtical angle: alſo FG = GV (Euc. 3. 3.) and the $\angle$ FWC = the other given angle.

Calcula. The $\angle$ FSV being in a ſemicircle, is a right $\angle$, in which are given all the $\angle$'s and the ſide FS, the $\angle$ FWG, or $\angle$ GWC will from thence be known, then the ſides of the triangle ABC will eaſily be determined.

Mr. John Brooks gave an elegant and general conſtruction to this queſtion.

Algebraical Solution by Mr. James Aſhton, of Harringtan.

Let the point N be the middle of the baſe, and put p = BD, then $\frac{p}{2}$ = DW (*ſee the preceding figure*) s and c = ſine and coſine of the $\angle$ ABC, then c = coſine of the ſum of the angles BAC and BCA; m and n = ſine and coſine of the $\angle$ AWC, then n = coſine of the ſum of the angles WAC and WCA; v = *coſ.* of the diff. of the angles BCA, BAC, and y = *coſ.* diff. of the angles WCA, WAC, then (by prop. 10. book 2. Emerſon's Trig.) $v+\overset{*}{c}:s::p:\frac{ps}{v+c}$ = half the baſe, and $y-\overset{*}{n}:m::\frac{p}{2}:\frac{mp}{2y-2n}$ = half the baſe; whence $\frac{pm}{2y-2n}=\frac{ps}{v+c}$, and $y=\frac{2ns+mc+m^2v^2}{2s}$ = (by ſubſtitution) $\frac{a+vm}{2s}$, and $y^2=\frac{a^2+2amv+m^2v^2}{4s^2}$. But (by prop. 9. aforeſaid) $s:\sqrt{1-v^2}::\frac{2ps}{v+c}:\frac{2p\sqrt{1-v^2}}{v+c}$ = the diff. of the ſegments = 2 ND;

then, $\frac{p\sqrt{1-v^2}}{v+c} = ND$; alſo (corol. prop. 10.) $\sqrt{1-y^2} : m ::$ $\frac{p\sqrt{1-v}}{v+c} : \frac{pm\sqrt{1-v^2}}{\overline{v+c}\sqrt{1-y^2}} =$ (half the baſe) $\frac{ps}{v+c}$; whence $s\sqrt{1-y^2}$ $= m\sqrt{1-v^2}$, or $y^2 = \frac{s^2-m^2+m^2v^2}{s^2} =$ (as found above) $\frac{a^2+2ams+m^2v^2}{4s^2}$, which reduces to this quadratic, $3m^2v^2 - 2amv = 4m^2 + a^2 - 4s^2$.

Note, c and n muſt have the ſine + or —, as the reſpective coſine is greater, or leſs than a quadrant.

The ſame by Mr. Wm. Hulland, of Newborough.

Put $2a = BD$, $b =$ tang. ABC, $c =$ tang. AWC, and $x =$ tang. ABD (*ſee the preceding figure*); then per trig. $\frac{b-x}{1+bx} =$ tang. DBC, and $2x =$ tang. AWD, $\frac{2b-2x}{1+bx} =$ tang. DWC; alſo, tang. AWD + DWC $= \frac{2bx^2+2b}{1-3bx+4x^2} = c$, per queſt. and $\overline{4c-2b} \times x^2 - 3bcx = 2b-c$; alſo $x = \frac{3bc \pm \sqrt{40bc - 16c^2 - 16b^2 + 9b^2c^2}}{8c-4b^2} =$ the tang. of the angle ABD, from hence, all the parts of the triangle are eaſily determined.

Meſſrs. Ferdinando, Robert Nicholſon, and Whiting, alſo gave anſwers.

XII. QUESTION (74). This queſtion is, I preſume, the very ſame as Problem LIV. page 165, *Simpſon's ſelect Exerciſes*, where an elegant algebraical and geometrical ſolution may be ſeen. *Ferdinando.*

Solutions were given by Meſſrs. Aſhton, Brooks, Hall, Hulland, and Whiting.

XIII. QUESTION (75) *by Ferdinando.*

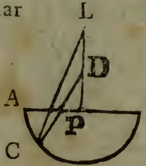
The ſeries here given, it is preſumed, has been intended for $\frac{1}{1.2.3.\ \&c.\ \text{to}\ r} + \frac{1}{2.3\ldots\overline{r+1}} + \frac{1}{3.4\ldots\overline{r+2}}$, &c. if ſo, then the following is the ſolution. Here the nth term is $\frac{1}{nnn\ldots n}$, and $\overline{n+1}^{\text{th}}$ term or $S = \frac{1}{\underset{1}{n}\,\underset{2}{n}\,\underset{3}{n}\ldots\underset{r}{n}}$, whoſe integral is $S = -$

$\frac{1}{\overline{r-1}.nn\ldots nn} =$ (becauſe $n = 1$) $- \frac{1}{\overline{r-1}.\overline{n+1}.\overline{n+2}\ldots\overline{n+r-1}}$; but, when $n = o$, S is $= - \frac{1}{\overline{r-1}.1.2\ldots\overline{r-1}}$; therefore the correct integral is $S = \frac{1}{\overline{r-1}.1.2\ldots\overline{r-1}} - \frac{1}{\overline{r-1}.\overline{n+1}.\overline{n+2}\ldots\overline{n+r-1}}$; and when n is infinite, S is $= \frac{1}{\overline{r-1}.1.1\ldots\overline{r-1}} = \frac{1}{\overline{1.2\ldots r-1}|^2}$.

Example. Suppoſe $r = 4$, then the ſeries becomes $\frac{1}{1.2.3.4} + \frac{1}{2.3.4.5} + \frac{1}{3.4.5.6}$, &c. whoſe ſum, by our theorem, is $\frac{1}{\overline{1.2.3}|^2} = \frac{1}{18}$.

Mr. Robert Carliſle, the Propoſer, anſwered it.

XIV. Question (76) *by Mr. John Brooks, of Leeds.*

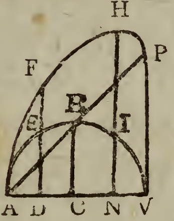


Let ACB repreſent the middle of the circular walk, L and D the lamps, and put $PD = x$, $AP = a$, and $DL = b$; then $PL = x + b$, $CD = \sqrt{a^2 + \overline{x+b}|^2}$, Now, becauſe all forces diffuſed by the rectilineal effluvia of matter from a center, vary as the ſquare of the diſtance from that center inverſely, and the intenſity is as the ſaid diſtance drawn into the ſine of the angle of incidence: by trig. CD : rad. : : PD : s. ∠ PCD $= \frac{x}{\sqrt{x^2+a^2}}$: alſo CL : rad. : : PL : s∠ PCL $= \frac{x+b}{\sqrt{a^2+\overline{x+b}|^2}}$. Therefore the intenſity of the particles of light at C will be expreſſed by $\frac{1}{x^2+a^2} \times \frac{x}{\sqrt{a^2+x^2}} + \frac{1}{a^2+\overline{x+b}|^2} \times \frac{b+x}{\sqrt{a^2+\overline{x+b}|^2}}$ $= \frac{x}{\overline{a^2+x^2}|^{\frac{3}{2}}} + \frac{b+x}{\overline{a^2+\overline{x+b}|^2}|^{\frac{3}{2}}}$, which by the queſtion is a maximum. In fluxions $\frac{\dot{x}.\overline{a^2+x^2}|^{\frac{3}{2}} - 3x\dot{x}.\overline{a^2+x^2}|^{\frac{1}{2}}.x}{\overline{a^2+x^2}|^3} +$ $\frac{\dot{x}.\overline{a^2+\overline{x+b}|^2}|^{\frac{3}{2}} - 3\dot{x}.\overline{b+x}|^2.\overline{a^2+\overline{b+x}|^2}|^{\frac{1}{2}}}{\overline{a^2+\overline{b+x}|^2}|^3} = o$. Hence, $\overline{a^2+x^2}|^{\frac{3}{2}} \times \overline{a^2+\overline{b+x}|^2}|^3 + \overline{a^2+x^2}|^3 \times \overline{a^2+\overline{x+b}|^2}|^{\frac{3}{2}} = 3x^2 \times \overline{a^2+x^2}|^{\frac{1}{2}} \times \overline{a^2+\overline{x+b}|^2}|^3 + 3 \times \overline{a^2+x^2}|^3 \times \overline{x+b}|^2 \times$

$\overline{a^2+\overline{x+b}|^2}\big)^{\frac{1}{2}}$; which equation being put into numbers, and ſolved by any of the known methods, gives $x = 4.186$ yards, or 4 yards $6\frac{2}{3}$ inches; which is the height the lower lamp muſt be fixed above the horizontal level of the walk.

The Propoſer, Mr. James Aſhton, alſo anſwered it.

XV. QUESTION (77) *by Mr. John Brooks.*



Put A V $= a$, A D $= x$, and D F $= y$; then by the property of the circle D E $= \sqrt{ax-x^2}$, and per queſt. $y = \sqrt{ax-x^2} + x$ an equation to the ellipſe.

Quadrature — $\dot{x}y = \dot{x}\sqrt{ax-x^2} + \dot{x}x$, whoſe fluent is = the area of the ſegment A E D $+ \frac{1}{2}x =$ (when x becomes $= a$) the area of the ſemicircle A B V $+ \frac{1}{2}a^2$.

For the greateſt ordinate. If the expreſſion for the ordinate be put into fluxions, we get $\frac{\frac{1}{2}a\dot{x} - x\dot{x}}{\sqrt{ax-x^2}} + \dot{x} = 0$: hence $x = \frac{a}{2} + \frac{a}{\sqrt{8}} =$ A N: wherefore N H $= \frac{a+a\sqrt{2}}{2}$ the greateſt ordinate. Now, in order to find the quadrature of the ſegment A F H N, ſubſtitute $\frac{a}{2} + \frac{a}{\sqrt{8}}$ (the above found value of x) in the above found general expreſſion for the area, and it becomes, area of the ſegment A E B I N $+ \frac{3+\sqrt{2}}{8} \cdot a^2$ for the area required.

Meſſrs. Elliott, Ferdinando, James Nicholſon, and Whiting, alſo gave ingenious anſwers.

XVI. QUESTION (78) *by Ferdinando.*

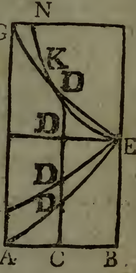
Put the ſemitranſverſe *a x e c o* (*ſee the fig. in laſt year's Diary*) $= t$, the ſemiconjugate or radius A O or B O $= a$, A H $= x$ and H I $=$ H G $= y$: then, by the circle, A H . B H $=$ H E^2 $= 2ax - x^2$, and, by ſim. $\triangle$ s, A H^2 (x^2) : H E^2 $(2ax - x^2)$ :: A G^2 $(\overline{x+y}|^2)$: G F^2 $= \frac{2a-x}{x} \cdot \overline{x+y}|^2$. But, by the ellipſe, $a^2 : t^2$ :: A G $\cdot$ G B $(\overline{x+y} \cdot \overline{2a-x-y})$: G F^2 $= \frac{t^2}{a^2} \cdot$

$\overline{x+y}\cdot\overline{2a-x-y}=\frac{2a-x}{x}\cdot\overline{x+y}\rceil^2$, by above. Hence $y=\frac{\overline{t^2-a^2}\cdot\overline{2ax-x^2}}{\overline{t^2-a^2}\rceil\cdot x+2a^3}$ the equation of the curve; in which, when $x=\frac{2a^2}{t+a}$, $y=2a\cdot\frac{t-a}{t+a}$ the greateſt ordinate, found by equating the fluxion of $\frac{\overline{t^2-a^2}\cdot\overline{2ax-x^2}}{\overline{t^2-a^2}\cdot x+2a^3}$ to o. The flux. of the area $y\dot{x}$ is $=\frac{\overline{t^2-a^2}\cdot\overline{2ax-x^2}\,\dot{x}}{\overline{t^2-a^2}\cdot x+2a^3}$, and the correct fluent, when $x=2a$, is $2a^2+\frac{4a_4}{t^2-a^2}-\overline{\frac{2a^4}{t^2-a^2}}\Big|^2\times h.l.\frac{t^2}{a^2}=$ the area of the whole curve A I B. Again, the fluxion of the ſolid $cy^2\dot{x}$ is $=\overline{\frac{\overline{t^2-a^2}\cdot\overline{2ax-x^2}}{\overline{t^2-a^2}\cdot x+2a^3}}\Big|^2\cdot c\dot{x}$ whoſe correct fluent, when $x=2a$, is $8a^3c\times:\frac{1}{3}+\frac{4a^2}{m}+\frac{4a^4}{m^2}-\overline{\frac{2a^2}{m}+\frac{6a^4}{m^2}+\frac{4a^6}{m^3}}\times h.l.\overline{1+\frac{m}{a^2}}$ for the whole ſolid A I B (where $m=t^2-a^2$).

Anſwers were alſo received from Meſſrs. Brooks, James Nicholſon, Virtuoſo, and Whiting.

XVII. or Prize Question, *by Mr. Thomas Whiting, of Lambeth.*

Put the diameter of the curve A B $=a$, the abſciſſa C B $=x$; the ordinate C D $=y$, and the area B E D C* $=b$. (* curve E D G).



But as C D is a third proportional to the nth power of A B, and the nth power of A B + G B C; therefore $a^n:\overline{a+x}\rceil^n::\overline{a+x}\rceil^n:\frac{\overline{a+x}\rceil^{2n}}{a^n}=$ C D $=y$ the equation of the curve. The fluxion of the area $y\dot{x}=\frac{\overline{a+x}\rceil^{2n}\dot{x}}{a^n}$, the fluent of which is $=\frac{\overline{a+x}\rceil^{2n+1}}{a^n\cdot\overline{2n+1}}$; but after correction, making the fluent $=o$ when $x=o$, it becomes $\frac{\overline{a+x}^{2n+1}}{a^n\,\overline{2n+1}} - \frac{an+1}{2n+1}$ = the area of the ſpace B E D C.

But to find the value of x when this ſpace is equal to a given quantity b; we ſhall have $\frac{\overline{a+x}|^{2n+1}}{a^n\,\overline{2n+1}} - \frac{a^n+1}{2n+1} = b$. Hence $\overline{a+x}|^{2n+1} - a^{2n+1} - 2nba^n - ba^n = 0$. And reduced $x = \sqrt[2n+1]{a^{2n+1} + 2na^n b + a^n b} - a$, and $y = \frac{\overline{\sqrt[2n+1]{a^{2n+1} + 2na^n b + a^n b}}|^{2n}}{an}$. In theſe general values for x and y, if 1 be ſubſtituted for n they become $x = \sqrt[3]{a^3+3ab} - a$; $y = \frac{\overline{\sqrt[3]{a^3+3ab}}|^2}{a}$. Theſe values of x and y when $a = 9$, and $b = 64$ are 4.49384, and 20.23152 = C B, and C D.

Remark 1. When the curve begins to be generated at E, let the value of n be what it will, its leaſt ordinate B E is equal to its diameter; and when its generation ceaſes at G, its greateſt ordinate A G = $2a^n$. The area of the whole curve B E G A is to that of its circumſcribing parallelogram, when $n = 1$ as $2\frac{1}{3}$ to 4.

Remark 2. If C D be taken a third proportional to A B^n, and $\overline{\text{AB} - \text{CB}}|^n$ inſtead of $\overline{\text{AB} + \text{CB}}|^n$ the area B E D C = $-\frac{\overline{a-x}|^{2n+1}}{a^n\,\overline{2n+1}} + \frac{a^{n+1}}{2n+1}$, the loweſt curve, differing from that above found only in the change of ſigns: but, when $x = a$ the firſt term $= 0$, and the area of the whole curve $= \frac{a^{n+1}}{2n+1}$; which is to that of its circumſcribing ſquare as $\frac{a^{n+1}}{2n+1}$ to a^{2n}.

Remark 3. If C D be taken a third proportional to $\overline{\text{AB} \pm \text{BC}}|^n$ and A B^n, we ſhall have $\overline{a \pm x}|^n : a^n :: \frac{a^{2n}}{\overline{a \pm x}|^n} = y$ an equation for two other curves, different from thoſe already noticed;

when the upper ſign takes place, it is the curve E D M; but when the under ſign takes place, it is the curve E K N, which at firſt falls within the curve E D G, and interſects it at K, when $\frac{\overline{a+x}^{2n}}{a^n}=\frac{a^{2n}}{\overline{a-x}^{n}}$, and then infinitely proceeding A G produced is its aſymptote.

Ingenious ſolutions were alſo given by Meſſrs. James Nicholſon, Brooks, and Cock, the propoſer. Virtuoſo anſwered all the queſtions, except the 10th.

NEW QUESTIONS.

I. Question (80) *by Collis, Etoceto.*

Required the area of a circle inſcribed in a triangle, the ſides of which are expounded by the following equations?

$$x^2+y^2=z^2$$
$$x^2y-2z^2=88$$
$$xyz=480.$$

II. Question (81) *by Mr. German Buxton, London.*

Two numbers, dear artiſts, I aſk you to find,
By theſe two equations, hereunder ſubjoin'd?

$$x^2+y\sqrt{xy}+x+x\sqrt{xy}+y+y^2=662=a$$
$$x\sqrt{y}+x+y\sqrt{y}+y=100=b.$$

III. Question (82) *by Mr. James Stevenſon, of Heath, near Cheſterfield.*

Given 160 inches the perimeter, and 1280 the difference of the ſquares of the length and breadth of the plate of a looking glaſs; it is framed with a frame of equal width, whoſe area and that of the glaſs are in the ratio of 11 to 24; required the length and breadth of the glaſs, and width of the frame?

IV. Question (83) *by Mr. Wm. Hulland, of Newborough.*

The vertical angle of a plane triangle being 31° 23′, and the baſe 45 poles; to determine the triangle, when the ſquare of the leſſer of the two including ſides is equal to double its area?

V. Question (84) *by Ferdinando.*

Given one of the angles of a plane triangle, whoſe ſides are in arithmetical progreſſion, and the common difference of the ſides; to conſtruct the triangle?

VI. QUESTION (85) *by the ſame.*

Given the difference of the ſides, the difference of the ſegments of the baſe made by a perpendicular from the vertical angle, and the line biſecting the baſe, of any plane triangle; to conſtruct it?

VII. QUESTION (86) *by Mr. Joſeph Waters, Graves-lane.*

It is required to determine the degrees in an arch, when the remaining part of the circumference may be divided into any number of equal arches, whoſe chords is to the chord of the required arch in a given proportion; and to find the diameter, when the number of equal arches are 4, the given proportion as 1 to ·896, and the radius, together with the five chords, are the ſmalleſt poſſible in whole numbers?

VIII. QUESTION (87) *by Mr. James Aſhton, Harrington.*

Being ſeated in my apartment, in the laſt autumn quarter, with a large horizontal table before me, and a window to the ſouthward (it being in the forenoon) the ſun ſhining clearly, I opened the window; and having an inſtrument in the form of a joiner's ſquare, the perpendicular leg of which was 12 inches, I ſet it on the table, when it caſt a ſhadow of 89.44 inches long: then marking the extreme point of the ſhadow with a pencil; the inſtrument continuing unmoved, preciſely $2\frac{1}{2}$ hours after, I again meaſured the length of its ſhadow, and found it 33.5 inches, and marking its point as before, I found the diſtance of the ſummits, or extreme points of the two ſhadows 64.92 inches: from whence it is required to find the latitude of the place, the day of the month, and the hours when the ſhadows were meaſured?

IX. QUESTION (88) *by Mr. Wm. Marſden, Netherhurſt, near Hatherſage, Derbyſhire.*

A muſical ſtring let us take I deſire,
And cauſe it to ſound us the note alamire;
Its length twenty inches, and weight forty grains;
The tenſion to ſtretch it, is now what remains.
Suppoſe now a ſharp with this ſtring ſhould be found,
What weight muſt be added, to give the true ſound?

X. QUESTION (89) *by Mr. John Youart, Glazedale, near Whitby.*

Given the ſlant ſide of the fruſtom of a cone 50, and the leſſer diameter 40; required the ſolidity, when the rectangle of the height, by half the difference of the diameters is a maximum?

XI. QUESTION (90) *by Mr. Patrick Hall, Denby.*

If a ſtring 3 feet long, with a ball of one ounce at one end, was ſuſpended at the other, and deſcribe in its motion a conical ſurface : required the area of the cone formed by the ſtring; when the periodical time multiplied by the central force is a maximum ?

XII. Question (91) *by Mr. James Nicholſon, Newcaſtle.*

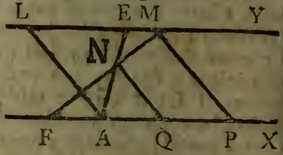
Given the three ſides of a plane triangle 20, 30, and 40 ; required the ſhorteſt line which will divide it into two equal parts ?

XIII. Question (92) *by Ferdinando.*

Suppoſe two weights of 4lb. and 3lb. are connected by a cord going over a fixed pulley ; to find the ſpace deſcended by the greater weight, or aſcended by the leſs, in the firſt ſecond of time ?

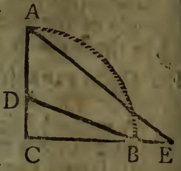
N. B. The firſt and third of my queſtions here propoſed for ſolutions are not new ; but have never (to my knowledge) been publicly anſwered.

XIV. Question (93) *by Mr. Thomas Whiting, Lambeth.*



Let A x, LY be two indefinite parallel right lines, and let equal parts A F, L E be ſet off in oppoſite directions from aſſumed points A, L, in the ſaid lines: draw A E, and from any fixed point M taken any where in LY, draw M F. It is required to find the locus of the interſection of A E, and M F ?

XV. Question (94) *by Mr. Joſeph Waters, Graves-lane.*



From the extreme point A in a circular quadrant A B C, whoſe radius is unity, a body M is to move uniformly along the direction A E till it meets C B produced in E ; at which inſtant another body N (with an uniform celerity to that of M as 1 to 2.08) proceeds from a point D in the perpendicular CA (produced when neceſſary) directly to B ; it is required to determine the points D and E, when $DC + BE = .75$, and the whole time of motion from M leaving A, to N arriving at B, is a maximum ?

XVI. *or* Prize Question (95) *by Mr. John Brooks, Leeds.*

From a given point P it is required to draw two right lines PA, P B making a given angle A P B, and meeting a right line and the periphery of a circle, both given in poſition, in A and B reſpectively ; ſo that the ratio of PA to P B may be the greateſt, or leaſt poſſible ?

F I N I S.

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